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THESIS

NAVAL AVIATOR RETENTION:
PREDICTING RETENTION AND
IDENTIFYING RELATED VARIABLES

by

Virgil Griffith Cook, Junior

June 1979

Thesis Co-Advisors: R.A. Weitzman
R.S. Elster

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Naval Aviator Retention: Predicting Retention and Identifying Related Variables

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the
requirements for the degree of

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I. INTRODUCTION

The objective of this thesis is to ascertain the feasibility of using the Navy's Human Resources Management survey to predict Naval Aviator retention. Increasing numbers of Naval aviators are resigning from the Navy. A trend of declining pilot retention began to surface in fiscal year 1977 and has steadily increased in magnitude. Resignation requests from pilots reaching their minimum service requirement (MSR) increased from 532 in fiscal year 1977 to 762 in fiscal year 1978. The office of the Chief of Naval Operations (OP-136d) projects that in fiscal year 1979 more than 850 Navy pilots reaching MSR[1] will resign. So far in fiscal year 1979, resignations by Naval Aviation (pilot) Lieutenant Commanders, who are beyond the MSR point and generally not included when computing retention figures, have increased from 35 in fiscal year 1978 to 76 at the same time (March) in fiscal year 1979, an increase of 100 percent. If aviator retention continues to follow the

---

[1]MSR is the initial service obligation incurred by an officer. Once fixed by commissioning source and initial training, an officer's MSR does not change. Later obligations (augmentation, PG school) have no bearing on MSR. Specifically, retention is the ratio of the number of officers onboard at MSR+2 years to the number onboard at MSR-1 year (MSR-1.5 for aviation officers). For example the MSR for a pilot, regardless of commissioning source, would be 4.5 years after designation as a Naval Aviator.

projected downward trend, and requirements for aviators do not decline, it will threaten the operational readiness of Naval Aviation and, ultimately, National security. An increased understanding of the factors affecting retention and resignations, coupled with a system to monitor retention, is needed to confront successfully the Navy's current aviator retention problems.

A. PRIOR RESEARCH

Problems with aviator retention are not new to the Navy. During the early years of the Vietnam war (1965), the Navy was faced with increasing requirements for pilots and a decrease in retention of pilots [Adams, 1966]. A study was conducted by the Navy Personnel Program Support Activity, Washington, D.C., which asked Navy pilots various questions regarding aspects of Naval services [Adams, 1966]. Four major areas contributing to low retention were identified: family separation, pay and allowances, lack of choice in duty assignment, and excessive administrative duties. The extent of analysis in this study was limited to frequency distributions with no mention of correlations or other statistical measures or tests. Other than this study, very little work has been done dealing specifically with Naval Aviator retention. Since 1966, considerable work concerning personnel turnover of enlisted personnel has been done, and a few studies of officer personnel in various branches of the service have been made. Hand, Griffeth, and Mobley (1977)

recently published an extremely comprehensive review of military attrition and retention studies. This review includes a classification matrix which categorizes studies by the independent and dependent variables used. This matrix provides the reader with a quick overview of seventy-eight military enlisted personnel turnover studies performed since 1971. The category headings were:

Independent Variables: Economic/incentive, organizational practices, climate, job content, attitudes, satisfaction, intentions expectations, demographics, psychological, aptitude, and performance (vertical axis).

Dependent Variables: Original choice, attrition prior to completion of service obligation, actual reenlistment, intention, completion of enlistment, other forms of withdrawal, and studies related to withdrawal behavior (horizontal axis).

Another recent literature review dealing with civilian turnover studies, done by J. L. Price (1977), codified the turnover literature from a variety of disciplines, e.g. economics, sociology, and psychology. Finally, a computer search through the Defense Documentation Center, Alexandria, Va., using officer personnel, officer retention, pilot retention, and pilots, as search code terminology, was performed by this investigator. This search covered all studies from 1966 to the present which dealt with the aforementioned topic areas. These three summaries provided considerable insight into current knowledge concerning approaches to solving personnel turnover and retention problems. Relevant studies cited in these sources will be referenced in following sections of this report.

The basic criterion of this study is Naval avaiator career intentions; specifically, intention to make a career in the Navy or intention to resign from the Navy. It is generally accepted that an individual's stated intention is a good predictor of actual career choice behavior. Two methods for measuring actual retention have been used in Navy Research. The first is reenlistment rate, which is calculated cross-sectionally for selected groupings of Navy personnel. The second is individual reenlistment behavior -- which requires tracking an individual longitudinally. Measuring actual reenlistment on the basis of individual reenlistment decision appears to be the sounder of the two methods.

Several Navy retention studies have used both stated intent to reenlist and actual reenlistment behavior as criteria. Bruni, Jones, and James (1975) in a study of first term enlisted reenlistment behavior found that personnel who reenlisted had higher general satisfaction and perceived their jobs to be more challenging than those who left the Navy. LaRocco, Gunderson, and Pugh (1975) found personal characteristics such as marital status and age, work-related variables such as months at sea, and disciplinary record to be good predictors of reenlistment. In a study to measure retention of enlisted Navy personnel in selected critical specialities, Singer and Morton (1961) found length of duty at sea to be inversely related and pay

grade directly related to reenlistment. Lockman, Stoloff, and Allbritton (1972) in a study of four Navy occupational groups (Electrician, Mechanics, Communicators, Seaman/Fireman), found correlations varying from .36 to .46 between reenlistment intention and actual decision to reenlist. Additionally, they found that reenlistment decisions of those who intend to reenlist could be better predicted (adjusted R = .51) by adding economic, psychological, and personal characteristic variables to the equation. Holoter, Stahle, Conner, and Grace (1974) were able to differentiate between first-term enlisted personnel who reenlisted and those who left the Navy (N = 452). Using ten combined variables, 91 percent correct association with stay behavior (Phi = .24, $\underline{P} < .001$) was obtained for the 43 stayers in the stay group who had not intended to reenlist. For 41 who were undecided regarding reenlisting, a 96 percent correct association with stay behavior and 70 percent correct association with leave behavior (Phi = .78, $p < .001$) was found. Grace, Holoter, and Soderquist (1976), in a longitudinal study of 898 Navy enlisted personnel[1] designed to compare stated intention to reenlistment behavior, found that 93 percent of first-term personnel who stated they intended to reenlist actually did

---

[1]This sample was drawn from two survey samples. The first sample, 1,711 first term enlisted personnel, included 627 personnel within 6 months of reenlistment decision. The second sample of 2,744, had 1,760 personnel with less than four years remaining. The longitudinal study made no mention of how close personnel were to the decision point.

reenlist. In first-term personnel who stated they intended to leave the Navy, 96 percent actually did leave the Navy. Of those personnel in subsequent tours of enlistment, 100 percent who stated they intend to stay actually did stay, and 80 percent of those who indicated they would leave actually left the Navy. There was no mention of statistical significance in the study.

Aviator and officer retention studies performed since 1966 were reviewed to provide background information for this thesis. Rickus, Booth, and Ambler (1968) compared career (Naval Academy,NROTC) and noncareer (AOC,NAVCAD) Naval Aviator input groups. The purpose of this study was to assess the relationship of certain group retention variables to qualitative performance criteria. Four selection tests, twelve pre-flight training performance grades, and seven grades from the flight portion of training were used as performance criteria. Group retention rate was used as the dependent variable. The results indicated that the performance variables were not useful in differentiating between career and noncareer groups with regard to retention.

In a longitudinal study of 445 Army aviation Warrant Officers, Boyd and Boyles (1968) explored the relationship of career intentions to retention problems. Although there was no mention of correlations in this study, direct questions of career intent had predictive validity (χ^2 $p < .05$). Of the 328 Warrant Officers who left the Army, 81 percent had indicated a year earlier that they would do so. Of the

117 who remained in the Army, 54 percent had indicated a year earlier that they would stay, and 30 percent had been undecided.

Mitchell and Albright (1971) used expectancy theory to predict the effort, satisfaction, performance, and retention of two squadrons of Naval Aviators. The results provided strong support for the prediction of satisfaction and retention. Only moderate support was generated for the prediction of effort and performance. Furthermore, they found that the choice between staying in or getting out of the Navy was associated with intrinsic satisfaction and satisfaction with the job. The correlation between satisfaction and retention was ($r = .65$, $p < .01$).

Zacks (1977) developed a computer model for numerical forecasting of Navy pilot retention. This model suggests a method of predicting pilot retention 6, 12, 18, and 24 months into the future. The model is based on past retention data (1971 to 1975) of pilots from various commissioning sources. There is no reference to factors affecting retention, nor is there any mention of the validity of the predictions. Similarly, Beatty (1977) examined three methods of forecasting officer losses; Maximum Likelihood estimation (MLE), ordinary least squares (OLD), Simple B, and OLD standardization (Beta). This study concentrated on loss rates due to screening for selective admission. Beatty recommends the Beta model for forecasting loss rates.

Of all the studies related to officer retention, Lassiter and Proctor's (1973, 1975, 1976) study bears most substantially on this present investigation. In three phased reports job proficiency and organizational climate were studied in relation to Naval Officer retention in the all-volunteer-force environment. Of particular interest is the prediction model developed in phase two. This model, a discriminant-function-analysis model, was found to improve over chance determination of stayers and leavers, in two major sub groupings comprising the total sample, by 25 and 35 percent, respectively. These results suggest that applied retention research should be pursued in order to address why stayers stay, as the results may be different from those obtained from after-the-fact studies of why leavers leave.

With regard to research on military retention, several conclusions may be drawn. First, a person's stated career intention is a good predictor of actual retention behavior; of attitude measures, measures of command climate and general satisfaction have the greatest correlation with personnel retention. Lastly, using discriminant-function-analysis, predictors may be determined to forecast retention at least one year in the future.

B. SYNOPSIS OF STUDY

A statistical analysis of the Navy's Human Resources Management (HRM) survey data bank was used to assess the

potential of the HRM survey to predict aviator retention. Next, a new survey was designed to ascertain what variables were influencing the retention decisions of Naval Aviators and to identify items and item combinations which could discriminate between the two groups of Naval Aviators -- those intending to make a career in the Navy and those intending to resign from the Navy. These discriminating variables and their combinations were then cross-validated to estimate their predictive validity. The Statistical Package for the Social Sciences [Nie, et al, 1975] computer programs were used in the analyses of responses to both survey instruments.

II. RESEARCH OBJECTIVES, METHODS, AND PROCEDURES

The research objectives determined the approach utilized in this study. The approach combined survey research with multivariate analysis techniques. An effort is made to describe the analytical techniques in the methods and procedures sections. Analyses which require a background of statistical knowledge are relegated to the appendix section.

Attitudes and opinions of respondents indicated on the Navy's Human Resources Management (HRM) survey and the Navy Aviation Career (NAC) survey were the raw data from which discriminating variables were derived to predict Aviator career intention groups. These predictors, in composite predictor form, were tested in cross-validation on random samples of survey respondents.

A. RESEARCH OBJECTIVES

A major objective of this study was to determine the feasibility of using the Navy's HRM survey data for accurate prediction of Aviator retention six to eighteen months in the future. Another objective was to determine if discriminating variables would provide sufficient understanding of variables affecting retention to enable Navy management to develop effective action plans aimed at solving the avaitor retention problem.

In order to accomplish these objectives a statistical analysis of the HRM survey was performed to identify those

questions which effectively discriminated between the two groups of Naval Aviators, who stated intentions to make the Navy their career (Careerists) and who stated intentions to resign (Resignees). Next, on the basis of the results of this analysis it was decided to design and administer a new survey to a representative sample of Naval Aviators. This survey measured attitudes of aviators concerning current issues thought to be affecting retention, assessed stated career intentions, and attempted to determine variables directly related to individual career intentions. Additionally the new survey requested sufficient personal information to allow a future longitudinal study comparing career intentions with actual career behavior. Considerable attention was given to insure the confidentiality of survey responses.

B. METHOD

In late 1978, responses to the HRM survey (1977-78 data bank) were used to identify those questions which showed the greatest difference in group means between the Careerists and the Resignees. The Z-score criterion for these questions was statistical significance at the .001 level. Sixteen questions (Appendix A) were identified: questions 4 to 9 (from Command Climate index), questions 40 to 43 (Work Group Coordination index), and questions 53 to 58 (from Satisfaction index). These questions were used to construct the HRM index on the NAC survey to be discussed next.

In response to a request from the Director of Aviation Manpower and Training (OP-059) in January 1979, this investigator, in conjunction with personnel from the Navy Personal Research and Development Center (NPRDC), San Diego, California, developed the Navy Aviation Career (NAC) survey (Appendix B). This survey was designed to obtain a full and accurate picture of the factors affecting career motivation and career development of Naval Aviators. Social security numbers were requested from survey respondents to enable a future longitudinal study of actual career behavior. The survey consisted of questions intended to measure attitude and opinions in nine content areas. For the first area, aviators were asked to list the three most important factors influencing them to continue their career and the three most important factors influencing them not to continue their career. The second area consisted of demographic information and information concerning career intentions. The third and fourth areas consisted of information on the most recent sea tour and shore tour respectively. The fifth area contained information on operational management in the Navy. The sixth area dealt with the comparability of a Navy career with a Civilian career. The seventh area, the HRM area (questions 115 to 131), was untitled on the survey. This area is taken directly from the HRM survey as discussed earlier. The eighth area contained information regarding the attitude of the spouse with regard to the Navy as a career. The last area asked the respondent to evaluate

the influence thirty-eight variables have had on his individual career choice.

After approval of the survey by OP-05 and the Chief of Naval Personnel, the survey was mailed in March 1979 to 2,000 Naval Aviators (pilots and Naval Flight Officers) in randomly selected, representative, squadrons and organizations throughout the Navy (Appendix C). By the second week of May 1979, 1,043 surveys had been received and responses recorded for primary analysis.[1]

Many areas of the survey will not be addressed in this study. This study deals only with the objectives discussed earlier, i.e., predicting retention and identifying related variables, and will deal only with those items directly related to the objectives. NPRDC is concurrently studying other facets of the survey for report to OP-05 in late June, 1979.

C. PROCEDURE

Stated career intentions (question 6,NAC) was used as the dependent variable for most of the analyses in this study. The career intention question also provided a means of classifying personnel into the two "experimental" groups:

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[1]The time factor involved with completing this thesis and a subsequent requirement to report to the sponsor required a cut-off date of 14 May 1979. A total of 1,555 surveys had been received as of 1 June 1979.

Careerists and Resignees. The 1,043 cases in the analysis sample were classified into three groups according to how they responded to the NAC survey career-intention question. Those persons indicating they were at least 75 percent sure they would remain in the Navy were assigned to the Careerists group. Those persons indicating their probability of remaining in the Navy was 35 percent or less were assigned to the Resignees group. Those individuals scoring between 65 and 45 percent were categorized as "undecided". This undecided group was not used for analysis in this investigation. A frequency analysis of the two experimental groups was performed, using key descriptive variables, in an effort to describe a subject representative of each group. Variables which later were identified as predictors of group membership were factor analyzed to provide further descriptive information.

Questions from the NAC survey demographic index (questions 5-17), the HRM index (questions 115-131), and the intention factors index (questions 140-178) were subjected to discriminant analysis. The discriminant analyses used a dependent variable (career intention) and grouped all respondents into groups according to how they responded to the dependent variable. Based on these groupings of known membership, it analyzed each independent variable (each question in the above indices) and determined how effective the variable, in combination with other variables, was at classifying a case into the known groups (group 0 = Careerists,

group 1 = Resignees). Using one of a number of possible tests of statistical significance, those independent variables which, in linear combination, best predict group membership are isolated.[1] These variables are referred to as discriminating variables. Probabilities are computed for cases correctly and incorrectly classified into the two groups when only the discriminating variables are used. These probabilities, when compared to the probabilities of chance classification, give the investigator a good indication of how accurately the discriminating variables predict group membership.

After discriminating variables had been identified in this way, cases were grouped according to how much time an individual had remaining before he was eligible to leave the Navy. Separate discriminant analyses were performed on groups with six months remaining, twelve months remaining, and eighteen months remaining. The purpose of these analyses was to assess the effects of time remaining in the Navy on the correctness of classification into the two criterion groups.

A random sample of NAC survey respondents was used to cross-validate the predictive power of the discriminating variables. Two methods of cross-validation were used.

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[1] A variable or variate is generally considered a good predictor if it is significant at the .01 level ($p < .01$) [Amick & Walberg, 1975].

The first method used forty percent of the original sample to compute the discriminant function, then applied the discriminant function to the remaining sixty percent of the cases in the sample to compute an unbiased estimate of classification for each case [Nie, et. al., 1975]. In the second method, the original sample (N = 1,043) was randomly divided into two groups, each containing fifty percent. One group was used to compute regression weights in a multiple regression of the discriminating variables with the career intention variable. These weights were used to compute a weighted score for each case in the remaining fifty-percent group. This weighted score for a case was then correlated with the case's actual career intention in the cross-validation analysis.

III. RESULTS AND DISCUSSION

Research results, along with a discussion of their implications in relation to the objectives stated previously, are presented in this section. After first presenting the demographic make-up of the sample, the findings produced by discriminant-function analysis are described. Next, results of the two cross-validations are detailed. A discriminant analysis of aviators approaching "end of obligated service (EOS)" is presented, followed by an evaluation of twenty-nine discriminating variables and their implications regarding retention.

A. DEMOGRAPHY OF NAC SAMPLE

The demographic make-up of the NAC sample (N = 1,043) is presented in Table 3.1. This table indicates the variety of the sample.

Tables 3.2 and 3.3 represent the demography of the two groups, Careerists and Resignees, used in this study.

The Careerists' mean age is 30 years compared to 27 years for the Resignees. Of those individuals in the age range of 26 to 30 years old, 33 percent were Careerists and 40 percent were Resignees. Of those individuals who fell in the age range of 31 to 35 years old, 70 percent were Careerists and only 14 percent were Resignees. These age differences cannot be separated from differences in military rank.

NAC SURVEY
DEMOGRAPHY OF TOTAL SAMPLE (N=1,043)

Commissioning Source	USNA	ROTC-Res	ROTC-Reg	AOC	AVROC	OTHER
N(%)	197(19)	33(3)	155(15)	407(40)	111(10)	140(12)

Rank	Ens	Lt(JG)	Lt	LCdr	Cdr
N(%)	11(1)	104(10)	578(56)	293(28)	52(5)

Age	21-25	26-30	31-35	36-40	41 or >
N(%)	62(6)	470(45)	374(36)	115(11)	22(2)

Marital Status	Married	Single
N(%)	845(81)	194(19)

Designator	1310	1315	1320	1325
N(%)	602(58)	92(9)	282(27)	45(4)

Current Assignment	Helo Squadrons	VT	VF	VAW	VA/VAQ	VS/VP
N	84	150	104	45	142	131

	RAG	NPGS	Other Squadrons	Other
N	195	105	37	50

When Eligible to Leave NAVY	0-6	7-12	13-18	19-24	25-30	>30 months
N(%)	311(30)	156(15)	148(14)	103(10)	78(8)	247(23)

Career Intention Groups	Careerists	Resignees	Undecided
N(%)	556(54)	(255(25)	232(21)

(Missing data on some variables account for N's < 1,043)

TABLE 3.1

CAREERISTS
DEMOGRAPHY OF GROUP (N=556)

RANK	ENS	LT(JG)	LT	LCDR	CDR
N(%)	2(.4)	35(6)	233(42)	235(42)	47(9)

AGE	21-25	26-30	31-35	36-40	41 or >
N(%)	17(3)	156(28)	261(47)	103(19)	19(3.4)

MARITAL STATUS	MARRIED	SINGLE
N(%)	484(87)	70(13)

COMMISSIONING SOURCE	USNA	ROTC-RES	ROTC-REG	AOC	AVROC	OTHER
N(%)	108(20)	19(3)	57(11)	224(41)	49(9)	86(16)

DESIGNATOR	1310	1315	1320	1325
N(%)	319(58)	23(4)	184(33)	15(3)

WHEN ELIG. TO LEAVE NAVY	0-6	7-12	13-18	19-24	25-30	>30 months
N(%)	160(29)	72(13)	63(11)	60(10)	42(8)	151(28)

CAREER INTENTIONS ON ENTRY IN THE NAVY	For a Career	Prepare for Comm. Aviation	Fulfill Obligation	Uncommitted
N(%)	233(42)	26(5)	93(17)	203(37)

TABLE 3.2

RESIGNEES

DEMOGRAPHY OF GROUP (N=265)

RANK	ENS	LT(JG)	LT	LCDR	CDR
N(%)	2(.8)	33(13)	202(76)	26(10)	1(.4)

AGE	21-25	26-30	31-35	36-40	41 or >
N(%)	20(7)	186(70)	52(20)	7(3)	0

MARITAL STATUS	MARRIED	SINGLE
N(%)	195(74)	69(26)

COMMISSIONING SOURCE	USNA	ROTC-RES	ROTC-REG	AOC	AVROC	OTHER
N(%)	43(17)	10(4)	47(11)	101(39)	43(16)	17(6)

DESIGNATOR	1310	1315	1320	1325
N(%)	153(58)	56(21)	40(15)	12(5)

WHEN ELIG. TO LEAVE NAVY	0-6	7-12	13-18	19-24	25-30	>30 months
N(%)	103(39)	51(19)	46(17)	19(7)	17(6)	29(11)

CAREER INTENTIONS ON ENTRY IN THE NAVY	For a career	Prepare for Comm. Aviation	Fulfill Obligation	Uncommitted
N(%)	108(41)	16(6)	21(8)	119(45)

TABLE 3.3

It is interesting to note that of 196 U.S. Naval Academy (USNA) graduates in the sample, 55 percent were Careerists and 22 percent were Resignees. Comparison of these figures to the 407 Aviation Officer Candidate (AOC) graduates in the sample shows that the figures are almost identical. Fifty-five (55) percent of the AOC's were Careerists and 25 percent were Resignees. Previous data [Rickus, Booth, and Ambler, 1968] indicated that the retention rates for USNA graduates (70%) were much higher than retention rates for AOC graduates (41%).

Another interesting facet of the demographic data is that only 48 respondents indicated that they had entered the Navy to prepare themselves for a career in commercial aviation. Of these 48 respondents, 26 indicated they were Careerists and only 16 were Resignees; the remaining 6 were undecided. The Office of the Chief of Naval Operations (OP-136d), in a report on retention of Naval officers, reported that 32 percent of the aviators resigning in fiscal year 1978 indicated their intention to seek employment in commercial aviation. The decision to enter commercial aviation appears often to be a post-entry decision.

B. DISCRIMINANT ANALYSIS

A discriminant analysis was performed using 57 questions from the NAC survey as independent variables: questions 10 and 17, questions 115 to 131, and questions 140 to 178. (These questions appear in Appendix B.) Indicated career

intention comprised a two-valued career intention variable (described earlier) which was used as the dependent variable. This and subsequent analyses were limited to 427 respondents to the NAC survey. These respondents were chosen from the original sample of 1,043 based on three criteria: first, a respondent's rank was Lt(JG) through Cdr; second, the respondent fell into one of the two career-intention groups; and, third, the respondent had no missing data.

This analysis used all of the independent variables (57) in linear combination to predict group membership. The result, 83 percent correct classification, indicated the feasibility of using the independent variables to predict group membership. A review of the F-tests in this analysis indicated that a large number of the 57 independent variables were not statistically significant in differentiating power. Including these non-significant variables in a linear prediction equation could confound the interpretation of the analysis.

The SPSS discriminant-analysis subprogram [Nie, et al, 1975] provides two measures for eliminating non-significant variables from the linear prediction equation, eigenvalues and Wilk's Lambda. The eigenvalue is a statistic computed in the process of deriving the discriminant function. The sum of the eigenvalues is a measure of the overall predictive power of the linear prediction equation. The eigenvalue for a single predictor, expressed as a percentage

of the sum of the eigenvalues, indicates the relative contribution of the predictor to the overall prediction.

The second criterion for eliminating non-significant variables is Wilk's Lambda. Lambda is an inverse measure of discriminating power; the larger lambda is, the less information is predictable by the variables. Lambda, which can be transformed into a chi-square statistic to provide a test of statistical significance, was used in this study to prevent the computation of linear prediction equations using variables that were not significant. A significance level of .01 constituted the minimum Wilk's Lambda criterion.

A further aid used in this study to judge the importance of a discriminant function is its associated canonical correlation. The canonical correlation is a measure of association between the single discriminant function value and the dependent variable (career intention). The canonical correlation tells us how closely the function and the "group variable" are related. Stated another way -- it is a measure of the function's ability to discriminate among the two groups.

In an attempt to eliminate the non-significant variables from the first analysis, a second discriminant analysis was performed using Wilk's Lambda as the criterion for statistical significance. Table 3.4 presents a summary of this analysis.

The eigenvalue sum shown in this table indicates that 100 percent of the variance is accounted for. The canonical

ANALYSIS SUMMARY TABLE

QUESTION NO.	WILK'S LAMBDA	SIGNIF.	LABEL
10	.7179	.00001	Age
151	.6198	.00001	Retirement at 20 years
141	.5585	.00001	Navy life in general
169	.5297	.00001	Squadron flying assign.
172	.5092	.00001	Educ. Opportunity in Navy
170	.4977	.00001	Squadron ground job
165	.4901	.00001	Civilians view Naval avia.
171	.4855	.00001	Civilian job market
147	.4805	.00001	Ldrship & mgt of superiors
115	.4762	.00001	Decsn. made at appro. levels
130	.4722	.00001	Duties help career
156	.4682	.00001	Competition for advancement
174	.4649	.00001	Commissary & Exchange
177	.4613	.00001	Member of Elite Group
144	.4583	.00001	Ship habitability
140	.4551	.00001	Home life in general
175	.4517	.00001	Retirement benefits
120	.4489	.00001	Hard work gets recognition
160	.4458	.00001	Recog. for superior perf.
153	.4430	.01	Operation temp ashore
124	.4410	.01	Good decsn. and prob. solve
17	.4392	.01	When eligible to leave Navy
116	.4376	.01	Info shared within unit
145	.4359	.01	Availability of Govt. house
129	.4345	.01	Pride and Self-worth
118	.4328	.01	Encouraged to contrib. best
154	.4315	.01	Night Carrier Operations
158	.4312	.01	Shore assignments
152	.4300	.01	Rate of promotion

EIGENVALUE	% VARIANCE	CANONICAL CORRELATION	WILK'S LAMBDA
1.3254	100.0	.75496	.43003

CHI-SQUARE	DEGREES OF FREEDOM	SIGNIFICANCE
340.93	28	0.01

TABLE 3.4

correlation (.755) suggests that the discriminant function determined in this analysis does a very good job of discriminating between the two career-intention groups. Lambda, transformed into a chi-square (χ^2 = 340.9) with 28 degrees of freedom, indicates significance at less than the .01 level. The original 57 variables were reduced to 29 variables, each significant at the .01 level or less.

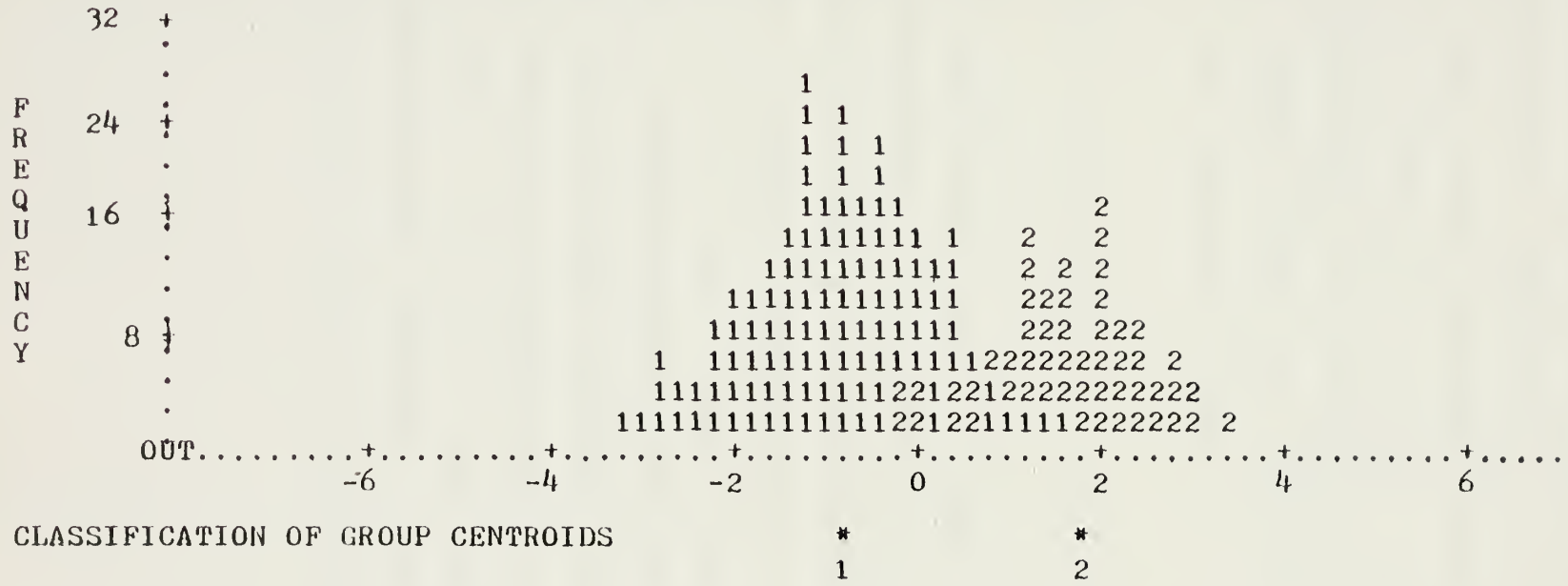
The remaining 29 variables in linear combination with their corresponding coefficients yield the discriminant score. This discriminant score will have a mean of zero and a standard deviation of one. Thus, any single score represents the number of standard deviations that a case is away from the mean for all cases on the discriminant function. There is a separate standard score for each case on the discriminant functions. By averaging the scores for all the cases within a particular group, we arrive at the group mean on the function. This group mean is referred to as the "group centroid" and is the most typical location of a case from that group in the discriminant function space. Table 3.5 depicts, in histogram form, the two groups in this analysis and their associated group centroids.

Discriminant analysis is considered to be a powerful classification technique. Amick and Walberg (1976) discuss discriminant analysis and its associated classification techniques. According to them, classification means the

SYMBOLS USED IN PLOT:

SYMBOL	GROUP LABEL
1	CAREERISTS
2	RESIGEES

HISTOGRAM
-- CANONICAL DISCRIMINANT FUNCTION 1 --



CLASSIFICATION OF GROUP CENTROIDS

*	*
1	2

CANONICAL DISCRIMINANT FUNCTION EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP		FUNCTION
1	CAREERISTS	-0.80778
2	RESIGNEES	1.63298

TABLE 3.5

process of identifying the likely group membership of a case when the only information known is the case's values on the discriminating variables. The SPSS discriminant-analysis subprogram uses a classification equation derived from the pooled within-groups covariance matrix and the centroids for the discriminating variables. The resulting classification coefficients are multiplied by the raw variable values, summed together, and added onto a constant. The equation for each group would appear as

$$C_i = c_{i1}V_1 + c_{i2}V_2 + \ldots + c_{ip}V_p + c_{i0}$$

where C_i is the classification score for group "i", the c_{ij}'s are the classification coefficients, c_{i0} being the constant, and the V's are the raw scores on the discriminating variables. There is always a separate equation for each group. Appendix IV is an example of the output of discriminant scores provided by the SPSS discriminant-analysis subprogram. This example may help the reader follow the above discussion. In this analysis there are two groups with each case having a score for each group. Each case is then classified into the group for which its score is highest. Table 3.6 summarizes the classification results of the 29 discriminating variables.

CLASSIFICATION RESULTS

ACTUAL GROUPS	NO. OF CASES	PREDICTED GROUP MEMBERSHIP CAREERISTS	RESIGNEES
CAREERISTS	285	256 89.8%	29 10.2%
RESIGNEES	142	14 9.9%	128 90.1%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 89.93%

TABLE 3.6

C. CROSS-VALIDATION

It was now necessary to assess the validity of the 29 discriminating variables in cross-validation. Two separate cross-validation procedures were used: sub-set discriminant analysis and cross-validation of a multiple-regression equation.

Sub-set discriminant analysis used 40 percent of a sample to compute the classification equations for each group. A discriminant score for each of the remaining 60 percent of the cases was computed using the coefficients generated from the analysis group (40% group). These discriminant scores were then used to classify each case into one of the two "experimental" groups. Table 3.7 presents the classification results of both the analysis group and the cross-validation group. The degradation of classification from the 40 percent analysis group to the 60 percent cross-validation group was negligible (.05%), indicating a robust

discriminating function. Appendix E presents a more in-depth depiction of the results.

CLASSIFICATION RESULTS FOR CASES SELECTED FOR USE IN ANALYSIS

40 % of ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP CAREERISTS	RESIGNEES
CAREERISTS	111	96 86.5%	1.5 13.5%
RESIGNEES	60	8 13.3%	52 86.7%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 86.55%

CLASSIFICATION RESULTS FOR CASES NOT USED IN THE ANALYSIS

60% of ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP CAREERISTS	RESIGNEES
CAREERISTS	181	154 85.1%	27 14.9%
RESIGNEES	86	9 10.5%	77 89.5%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 86.52%

TABLE 3.7

A somewhat different, though formally equivalent approach was used for the second cross-validation. On a random sample, constituting fifty percent of the original sample (N = 1,043), career intention (Careerists, Resignees) was regressed with the 29 discriminating variables to produce a

"b weight" for each variable. These "b weights" were then multiplied by the raw scores of each case in the remaining fifty percent sample, summed, and added to a constant, much in the same manner that discriminant analysis produces classification scores, to derive a Y-score for each case. The Y-scores were then correlated with career intention. This procedure resulted in a Pearson's correlation coefficient ($r = .51$) which was statistically significant at the .0001 level. Thus, the robustness of the discriminating function was further substantiated. Appendix F presents a summary of the Multiple Regression.

D. CLASSIFICATION OF AVIATORS APPROACHING EOS

As previously stated, the 29 discriminating variables were derived from aviators in the grades of Lt(JG) to Cdr. These aviators differed with respect to how far they were from the end of their obligated service (EOS). Seventy-five (75) were within one year of EOS and sixty-six (66) were between 13 and 18 months of their EOS. All 29 discriminating variables were next used in separate analyses of these two groups of aviators. Table 3.8 presents the classification results of these analyses. Prediction of group membership appears best when an aviator is within one year of EOS and begins to deteriorate after that point. A more detailed presentation of the results is contained in Appendices G and H.

CLASSIFICATION RESULTS FOR AVIATORS ONE YEAR FROM MSR

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP CAREERISTS	RESIGNEES
CAREERISTS	30	26 86.7%	4 13.%
RESIGNEES	45	0 0.0%	45 100.0%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 94.67%

CLASSIFICATION RESULTS FOR AVIATORS 13 TO 18 MONTHS FROM MSR

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP CAREERISTS	RESIGNEES
CAREERISTS	32	28 87.5%	4 12.5%
RESIGNEES	34	3 8.8%	31 91.2%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 89.39%

TABLE 3.8

E. VARIABLES RELATED TO RETENTION

As stated earlier, an objective of this study was to identify variables related to retention behavior. To begin this process, the 29 discriminating variables were subjectively classified into two general areas, command climate and satisfaction. Satisfaction variables were sub-divided into two sets: extrinsic variables and intrinsic variables. For the purpose of this discussion, extrinsic variables are

defined as those "tangible" variables inherent in the Navy system, e.g., job security, policies, benefits, and pay. Intrinsic variables are those "intangible" variables linked with personal satisfaction, e.g., achievement, recognition, personal growth, and work itself (see, for instance, Herzberg, et. al., 1959). Table 3.9 reflects this classification. Two variables, "age" and "when eligible to leave the Navy", were considered biographical in nature and were not subjected to this classification.

In an effort to understand the variables which affect retention, a factor analysis was performed. The target population for this analysis was those aviators approaching EOS -- more specifically, those within 24 months of EOS. There were 673 aviators in this category. Although ten factors were produced, only the first five are presented. The remaining five factors combined accounted for only 18 percent of the variance, where the first five factors accounted for 40.6 percent of the variance. Table 3.10 presents the five factors and their associated eigenvalues and percentages of common variance. Considering the classification (e.g., CC = Command Climate) from Table 3.9 together with the factors in Table 3.10, we can gain some understanding of the general areas associated with retention.

Military retention behavior is often thought of as dichotomous; in this study -- Careerists vs. Resignees. Factors related to retention can also be thought of in this manner. The positive aspect of a factor can be interpreted

TABLE 3.9

COMMAND CLIMATE (CC)

NO.	QUESTION
115	Decisions are made at the most appropriate level.
116	Information is shared, decision makers get information.
120	People who work hard receive recognition.
124	Command makes good decisions and solves problems.
118	Command encourages contribution of best effort.
147	Leadership and management of superiors.
153	Tempo of operations while ashore.
160	Recognition for superior performance.
156	Competition for advancement.

SATISFACTION

EXTRINSIC (ES)

151	Retirement at 20 years.
175	Retirement benefits.
172	Educational opportunity in the Navy.
174	Commissary and exchange.
144	Ship habitability.
145	Availability of government housing.
158	Shore assignments.
152	Rate of promotion.
171	Civilian job market.

INTRINSIC (IS)

130	Present duties help career
141	Navy life in general
140	Impact of career on home life
169	Squadron flying assignment
170	Squadron ground jobs
165	The way civilians view Naval Aviation
129	Job give feeling of pride and self-worth
177	Member of an elite group
154	Night carrier operations

TABLE 3.10

CODE	QUESTION	EIGENVALUE	% VAR.
FACTOR 1			
CC	116-Info. shared	5.27	17.6
CC	124-Good decsn. and prob. solve.		
CC	115-Decsn made at appro. level.		
CC	120-Hard work gets recognition.		
IC	129-Pride and self-worth.		
CC	147-Leadership & management of super.		
FACTOR 2			
ES	151-Retirement at 20 years.	2.31	7.7
ES	175-Retirement benefits.		
ES	174-Commissary & Exchange.		
ES	172-Education opportunity in Navy.		
FACTOR 3			
IS	177-Member of elite group.	1.66	5.5
IS	141-Navy life in general.		
IS	165-Way Civilians view Naval Air.		
IS	169-Squadron flying assignment.		
FACTOR 4			
IS	170-Squadron ground jobs.	1.55	5.2
D	10-Age		
IS	141-Navy life in general.		
FACTOR 5			
IS	169-Squadron flying assignment.	1.39	4.7
D	10-Age		
IS	154-Night Carrier operations.		

CC = Command Climate
ES = Extrinsic/Satisfaction
IS = Intrinsic/Satisfaction
D = Demographic data

as being associated with "Careerists behavior", the negative aspect with "Resignees behavior". Information of this type, in the hands of an experienced HRM specialist, with the assistance of a concerned Commanding Officer, could be used in an attempt to improve a command's aviator retention. Follow-up studies would, of course, be necessary to determine the effectiveness of any command changes based on such information.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The research described in this thesis was directed toward determining the feasibility of using the Navy's HRM survey to accurately predict aviator retention six to eighteen months in the future. Another objective was to determine if discriminating variables would provide sufficient understanding of variables related to retention behavior to enable Navy management to develop effective action plans aimed at solving aviator retention problems. Results obtained in this research demonstrate that the objectives have been realized. This section will summarize the research findings and provide conclusions and recommendations based on the results.

A. SUMMARY

The importance of the rapid deterioration of naval aviator retention and its associated impact on fleet readiness and national security cannot be overemphasized. Presently, predictions of Navy retention use after-the-fact methodology which does not take into consideration societal, economic, and attitudinal changes affecting Navy personnel. The current crisis concerning naval avaiator retention is indicative of the inability of present methods to predict retention. Answers to the retention prediction problem must be generated, and an effective monitoring

system implemented to predict retention and identify factors affecting retention.

Stated career intention appears to be a sound predictor of actual retention behavior, but alone, provides no information which could be translated into action plans to increase personnel retention in the Navy. This thesis suggests and illustrates a method of prediction which develops additional information related to why Navy personnel are making career choices. Used in parallel with stated career intention, as a predictor, an even more optimized prediction equation could be produced. The purpose of this thesis was to begin the process of developing such an effective and informative method of predicting Navy retention.

The review of literature showed that the following expectations motivating this study were reasonable: stated career intention is a good predictor of actual career behavior -- perhaps the best we have today; attitude measures, in particular command climate and general satisfaction measures, have perhaps the next greatest correlation with personnel retention; and discriminant-function-analysis, based on stated career intention, provides information related to retention intentions along with a good prediction equation.

Items from the Navy's HRM survey, thought to bear heavily on retention, were included on the Navy Aviation Career (NAC) survey. Seven of the fifteen selected HRM

items surfaced as predictors during the analyses in this study. Four other items on the NAC survey (age, when eligible to leave the Navy, leadership and management of supervisors, and recognition for superior performance) appear on the HRM survey in slightly different format. Eleven of the 29 discriminating variables found in this study already exist on the HRM survey. It can be concluded that the HRM survey, with the addition of several new items, would effectively predict the retention behavior of aviators.

The expectation that a discriminant-function-analysis model could be developed which effectively predicted retention intentions at least one year in the future was shown to be correct. With 95 percent correct classification of aviators (EOS-1), coupled with cross-validation significant at the .0001 level, little doubt remains as to the feasibility of this model. Additionally, discriminant analysis provides information which is transformable into action plans which could positively affect aviator retention.

When the 29 discriminating variables were subjectively classified, they appeared to fall into two categories, command climate and general satisfaction. This categorization tends to support earlier research dealing with the relationship of attitude measures to retention.

B. CONCLUSIONS

On the basis of the results of this research, four basic conclusions were reached.

Conclusion 1: In terms of stated career intentions, discriminant function analysis provides equations which effectively predict retention of Naval Aviators at least one year in the future.

Conclusion 2: Although stated career intentions may be a better predictor of actual retention behavior, discriminant-function-analysis provides insight into relationships which can be transformed into action plans to increase aviator retention.

Conclusion 3: The HRM survey (with existing items supplemented with new questions) can be used to predict retention probabilities and provide constructive information related to career choices.

Conclusion 4: Attitude measures of command climate and general satisfaction are good predictors of retention behavior.

C. RECOMMENDATIONS

Time and limitations beyond the control of this investigator prevented a full analysis of the NAC survey items. The concurrent study being performed by the Navy Personnel Research and Development Center should shed light on further areas associated with naval aviator retention. Three additional studies of great importance to navy retention in general are recommended by this investigator.

First, the longitudinal study mentioned earlier in this thesis must be carried out. Although several longitudinal studies have been performed which support the expectation that stated career intentions is a good predictor of actual behavior, a corresponding study has never been done on the naval aviator community.

Secondly, in a parallel study, stated career intentions as a predictor should be combined in a discriminant-function predictor equation. Obtaining the optimal retention forecast, with insight into areas affecting retention, should be the goal of this study. It might very well be, that the optimal solution is to use predictor methods in combination. The NAC survey data bank provides an excellent vehicle for this study.

Lastly, the potential of the Navy's HRM survey to predict retention of both officer and enlisted personnel has been demonstrated. Yet this potential has not been investigated beyond the limited depth of this study. A concerted effort to evaluate further the HRM survey's ability to contribute to the solution of the Navy's retention problems is highly recommended. Several reasons support this recommendation:

1. The HRM survey has a "stated career intention" question in the demographic section.
2. The HRM survey contains questions shown, in other studies, to be predictors of retention intentions.

3. HRM centers and detachments are familiar with survey guided development -- a method of developing action plans from survey data.
4. The HRM survey is an institutionalized part of the Navy, given to each Navy unit every eighteen months. The inclusion of additional predictor items related to retention would cost virtually nothing.

In view of this third recommendation, three related more specific recommendations are made.

Specific Recommendation A. A discriminant-function analysis should be performed on the HRM survey data to attempt to develop, for both officers and enlisted personnel, discriminant-function models for predicting retention at the unit level.

Specific Recommendation B. Discriminant-function analyses should be conducted for critical enlisted ratings and officer communities. Low retention communities should be investigated first.

Specific Recommendation C. Task the Navy Personnel Research and Development Center, San Diego, with performing the analyses.

Specific Recommendation D. Task the Navy's Human Resources Management system with implementation of a command retention program. This program should include tailored retention predictions and corrective action planning aimed at improving unit personnel retention.

The value of this study is two-fold. (1) Besides illustrating the use of an accurate method of predicting aviator retention, it provides a means of assessing the self-reported reasons given by aviators regarding their retention decisions. With the reasons identified, the problem of developing corrective action plans is reduced and the probability that these action plans will be effective is greatly enhanced. (2) The fact that some of the HRM items included in the NAC survey contributed significantly to the prediction of retention intentions indicates that the HRM survey, strengthened with supplementary retention questions, probably could be used to predict a units retention and provide valuable information regarding factors affecting the units retention.

No method presently exists in the Navy that provides unit retention probabilities and suggested corrective action plans. Considering that Commanding Officers are now being evaluated on their unit's retention, it only seems reasonable to provide them the means to assess their unit's status regarding retention. The cost of implementing the recommendations of this thesis are less than the cost of replacing one naval aviator.

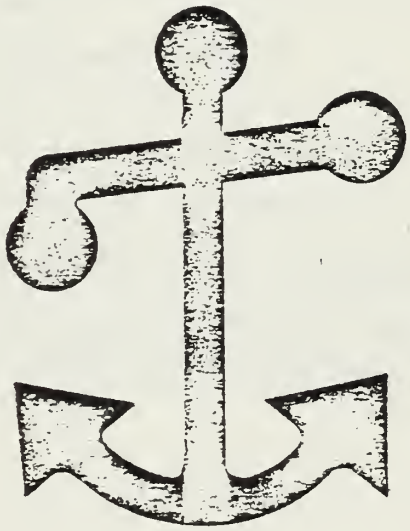
APPENDIX A

HRM	Question	MEAN/(SD) STAY (N=371)	LEAVE (N=242)	Z-SCORE
4.	Decisions made at levels where info. is available.	3.7 (.7)	2.7 (.8)	13.877
5.	Info. is widely shared, decsn. makers get info.	3.4 (.9)	2.3 (.9)	14.033
6.	People affected by decisions asked for their ideas	3.1 (.9)	2.3 (1.0)	14.818
7.	Motivated to contribute best to command mission	4.3 (.6)	2.7 (1.3)	19.138
8.	Command encourages hard work	3.4 (1.0)	2.2 (1.0)	14.523
9.	Hard work receives recognition	3.2 (.7)	2.3 (1.1)	11.222
40.	Work group plans together	3.9 (.7)	2.9 (1.3)	11.737
41.	Confidence and trust in others	3.8 (.7)	3.1 (1.2)	8.461
42.	Info. on important events is shared.	4.0 (.7)	2.8 (1.0)	15.467
43.	Cmd. makes good decisions and solves problems effectively.	3.7 (.7)	3.0 (1.1)	8.728
53.	Satisfaction with command.	3.7 (1.1)	2.0 (1.2)	19.098
54.	Satisfaction with job.	4.0 (.8)	2.8 (1.4)	13.465
55.	Satisfaction with progress to date.	4.4 (.6)	2.7 (1.2)	13.465
56.	Satisfied with chances of getting ahead in the future.	4.0 (.9)	2.2 (1.2)	20.964
57.	Job gives pride and self-worth.	3.9 (.7)	2.6 (1.3)	15.259
58.	Duties in command help career.	3.6 (1.1)	2.7 (1.1)	10.385

APPENDIX B

NAVY AVIATION CAREER SURVEY
PILOT FORM

The current high rate of pilot resignation threatens the operational readiness of Naval Aviation. The Chief of Naval Operations has directed that this survey be conducted to determine the reasons for this high resignation rate. This questionnaire is being distributed to a sample of Navy Aviators and Flight Officers. Your frank, honest answers on the questionnaire are urged. The information you give will be aggregated with that of other respondents, and the provisions of the Privacy Act will be strictly enforced. Under no circumstances will your individual responses be made available to anyone in your chain of command.



PRIVACY ACT NOTICE

Under the authority of 5 USC 301, information regarding your background, attitudes, experiences, and future intentions in the Navy is requested to provide input to a study of the aviation retention problem. The information provided by you will not become part of your official record, nor will it be used to make decisions about you which will affect your career in any way. It will be used by the Navy Personnel Research and Development Center for statistical purposes only. You are not required to provide this information. There will be no adverse consequences should you elect not to provide the requested information or any part of it.

The anchor design above was prescribed by the Bureau of Construction and Repair in 1916 as the first Navy air insignia.

INSTRUCTIONS

Some of the questions that follow may appear to be personal in nature. They are necessary to obtain a full and accurate picture of the factors affecting career motivation and career development. However, if any question appears unreasonably personal or too intrusive into your privacy, please omit it and continue with the balance of the questionnaire.

The questions are of two types. Some ask you to write in an answer on the questionnaire itself. Others ask you to select one answer from a list of alternatives, and mark the space corresponding to the letter for that answer on the enclosed answer sheet. Because the answer sheet will be machine scored, please observe these instructions:

1. Use a #2 pencil, not pen or ballpoint.

2. Fill in the answer space completely.

3. Erase cleanly any answer you want to change.

4. Make no stray marks on the answer sheet.

5. Some sections of the questionnaire may not apply to you. If you skip a section, make sure you also skip the corresponding answer sheet spaces.

6. When you have completed the questionnaire, please use the enclosed envelope to return both the questionnaire and the answer sheet to Navy Personnel Research and Development Center.

THANK YOU VERY MUCH FOR YOUR HELP.

A. Where is your current assignment homeported (if deployable) or located (if not deployable)?

_____

B. Where was your assignment previous to your current one homeported (if deployable) or located (if not deployable)?

_____

What do you think are the three most important factors that influence Aviators to continue their Navy careers until retirement?

C. _____

D. _____

E. _____

What do you think are the three most important factors that influence Aviators <u>not</u> to continue their Navy careers until retirement?

F. _____

G. _____

H. _____

The answers to the following questions should be entered on the enclosed answer sheet beginning with question #1.

1. What is your current assignment?

A. HC	I. VF	Q. Instructor (Not Flight)
B. HM	J. VP	R. Recruiting
C. HS	K. VQ	S. Ship's Company
D. HSL	L. VR/VC/VRC	T. FRS/RAG
E. HT	M. VS	U. Air Station
F. VA	N. VT	V. PG School
G. VAQ	O. Staff	W. Other (Fill In) _____
H. VAW	P. Washington Duty	

2. What was your assignment previous to the current one described above?

A. HC
B. HM
C. HS
D. HSL
E. HT
F. VA
G. VAQ
H. VAW
I. VF
J. VP
K. VQ
L. VR/VC/VRC
M. VS
N. VT
O. Staff
P. Washington Duty
Q. Instructor (Not Flight)
R. Recruiting
S. Ship's Company
T. FRS/RAG
U. Air Station
V. PG Station
W. Other (Fill In) _____

3. What type aircraft are you/were you most recently assigned to fly on a regular basis?

A. A-3
B. A-4
C. A-6
D. EA-6
E. A-7
F. C-1/C-2
G. E-2
H. F-4
I. F-8
J. F-14
K. H-1
L. H-2
M. H-3
N. H-46
O. H-53
P. P-3
Q. RA-5
R. S-2
S. S-3A
T. Other Training A/C - Helo
U. Other Training A/C - Jet
V. Other Training A/C - Prop
W. Other (Fill In) _____

4. How long has it been since you completed your most recent sea tour?

A. Not applicable (N/A)—no sea tour
B. N/A—am on sea tour
C. 0-6 months
D. 7-12 months
E. 13-18 months
F. 19-24 months
G. 25-30 months
H. 31-36 months
I. 37-42 months
J. 43-48 months
K. More than 48 months

5. If you have made a career decision either to remain in the Navy or to resign, when did you make this decision?

A. Not applicable (N/A)—have not made this decision
B. Before entering the Navy
C. Before I got my wings
D. During my first sea tour
E. During my first shore tour
F. During a subsequent sea tour
G. During a subsequent shore tour
H. Other (fill in) _____

NAVY CAREER INTENTIONS

This item concerns the intensity of your desire for a Navy Aviation career. It consists of (1) a question and (2) a response scale extending continously between two defined extreme values.

Selected areas on the scale are described, both verbally and in terms of probabilities, to provide you with some meaningful reference points. At selected points on the scale, percentages indicate the probability of one voluntarily continuing his active Navy career until retirement. Note, however, you are not necessarily limited to the few points for which descriptions or percentages are provided.

Locate the general area on the scale that seems to correspond best with your current commitment to a Navy career. Read the descriptions of the near points and decide on the exact point on the scale that most closely represents your current level of commitment. Note the letter nearest to that point and fill in the space on the answer sheet corresponding to that letter.

---

6. QUESTION:

To what degree are you now <u>certain</u> that <u>you</u> will continue an active Navy career until mandatory retirement?

NAVY CAREER COMMITMENT SCALE

6.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
J
V
W
X
Y
"-00"—I will continue my active Navy career as long as I possibly can. A career as a naval officer is most important to me. There is absolutely no chance at all that anything in the world could ever develop that could cause me to voluntarily resign.
99.995%
99.9%—I am virtually certain that I will continue my active Navy career as long as I am allowed to do so--that I will NOT voluntarily resign.
99%—I am almost certain I will make a continuing Navy career if possible.
95%
90%—I am confident that I will make a continuing Navy career and NOT voluntarily resign.
75%—I am very likely to continue my Navy career as long as possible.
65%—I probably will remain in the Navy after completion of my service obligation.
50%—I am not inclined the least bit either way at present.
35%—I am not sure but probably will resign after completing my service.
25%—I am very likely to resign when I can honorably do so after completing my service obligation.
10%—At this time, I am confident I will resign my commission after completing my service obligation.
5%
1%—As of now, I am almost certain that I will get out of the Navy as soon as I possibly can.
0.1%—I am virtually certain that I will resign when I can.
0.005%
"-00"—In my personal feelings, attitudes and thoughts, I am utterly committed to a completely nonNavy occupational career and life as soon as it is at all possible. There is absolutely no possibility whatsoever that I will continue as an officer in the Navy beyond my minimal obligated service.

4

7. When you entered Naval Aviation, did you intend to make the Navy a career?

A. Yes
B. No, I entered to prepare myself for a career in commercial aviation.
C. No, I entered to fulfill my military obligation.
D. No, I was not committed either way.

8. What is your rank?

A. ENS
B. LTJG
C. LT
D. LCDR
E. CDR
F. CAPT or above

9. What is your ethnic identity?

A. Black
B. Caucasian
C. Hispanic
E. Oriental
F. Other

10. What is your age?

A. 21-25
B. 26-30
C. 31-35
D. 36-40
E. 41-45
F. 46-50
G. Over 50 years

11. What is your marital status?

A. Engaged
B. Never married
C. No longer married
D. Married

12. How many children live with you in your home?

A. 0
B. 1
C. 2
D. 3
E. 4
F. 5
G. 6
H. 7
I. 8 or more

13. What was your commissioning source?

A. USNA
B. NROTC (Reserve)
C. NROTC (Regular)
D. AOCS
E. AVROC
F. Other (fill in) _____

14. What is your designator?

A. 1310
B. 1315
C. 1320
D. 1325
E. Other (fill in) _____

15. In what year was your designator assigned?

A. 1978 or 1979	D. 1975	G. 1969-71
B. 1977	E. 1974	H. 1965-68
C. 1976	F. 1972-73	I. Prior to 1965

16. Have you requested augmentation?

A. N/A, I was commissioned a Regular Officer.
B. No, and do not plan to do so.
C. No, and I am undecided right now.
D. No, but I plan to do so.
E. Yes, and was refused. I do not plan to reapply.
F. Yes, and was refused. I plan to reapply.
G. Yes, and am awaiting the results.
H. Yes, and was accepted.

17. How long from now will you be eligible to leave the Navy?

A. 0-6 months	D. 19-24 months	G. 37-42 months
B. 7-12 months	E. 25-30 months	H. 43-48 months
C. 13-18 months	F. 31-36 months	I. More than 48 months

18. If the Navy offered what you considered to be a substantial career bonus to remain on active duty beyond the expiration of your obligated service, how would it affect your career intentions?

A. It would not affect my intentions, I plan to stay.
B. It would not affect my intentions, I plan to get out.
C. I am undecided about my intentions, but a bonus would have no effect.
D. I am undecided about my intentions, but a bonus would have a positive effect.
E. I would stay in for the bonus.
F. I don't know.

19. If, because of budget limits, a career bonus were offered to pilots only and not to NFOs, how do you feel this would affect the Navy aviation community?

A. Very negative affect	D. Positive effect
B. Negative effect	E. Very positive effect
C. No effect	F. Don't know

20. If a career bonus were offered to pilots only, how would this affect your working relationship with NFOs?

A. Very negative effect	E. Very positive effect
B. Negative effect	F. Don't know
C. No effect	G. Not applicable—I don't work with NFOs
D. Positive effect	

21. What is your flight status in your present assignment?

A. DIFOPS (Duty involving flight, operational or training)
B. DIFDEN (with some flying)
C. DIFDEN (with no flying)

YOUR MOST RECENT SEA TOUR

The following questions (22-59) apply only to your most recent sea tour. If you have had no sea tour experience skip to Question 60.

22. Is your most recent tour:

A. Your present assignment
B. Your immediately previous assignment
C. An earlier assignment

23. How long have you served on your most recent sea tour?

A. Less than 6 months
B. 7-12 months
C. 13-18 months
D. 19-24 months
E. 25-30 months
F. 31-36 months
G. 37-42 months
H. 43-48 months
I. More than 48 months

24. If you are presently on a sea tour, are you deployed now?

A. N/A--not presently on a sea tour
B. Yes
C. No

25. While deployed on your most recent sea tour, approximately how many hours did/do you work during an average seven-day week?

A. N/A--have not deployed (skip to question 39)
B. 40 or less
C. 41-50
D. 51-60
E. 61-70
F. 71-80
G. 81-90
H. 91-100
I. More than 100

26. While deployed, approximately what percent of the total average work hours you reported in #25 did/do you spend directly related to flying (flying, briefing, debriefing, etc.)?

A. None
B. 10% or less
C. 11-20%
D. 21-30%
E. 31-40%
F. 41-60%
G. 61-80%
H. Over 80% of your work hours

Using the scale below, please show how the following factors affected you <u>while deployed</u> on your most recent sea tour.

Very Negative	Negative	Neutral	Positive	Very Positive	N/A
A	B	C	D	E	F

27. Challenge
28. Separation from family/friends
29. Use of skills and abilities
30. Working environment
31. Hours of work required
32. Work pressure
33. Interesting duties
34. Ability to plan and schedule work activities
35. "Adventure"
36. Opportunity to grow professionally
37. Attractive liberty ports
38. Relationships in wardroom/ready room

Using the scale below, please show how the following factors affected you <u>when not deployed</u> during your most recent sea tour.

Very Negative	Negative	Neutral	Positive	Very Positive	N/A
A	B	C	D	E	F

39. Challenge
40. Separation from family/friends
41. Use of skills and abilities
42. Working environment
43. Hours of work required
44. Work pressure
45. Interesting duties
46. Ability to plan and schedule work activities
47. "Adventure"
48. Opportunity to grow professionally

Using the following scale, what is your general evaluation of your most recent CO on your most recent sea tour?

Very Negative	Negative	Neutral	Positive	Very Positive	N/A
A	B	C	D	E	F

49. Airmanship
50. Management ability
51. Leadership
52. Interest and involvement in JO career development
53. Interest in welfare of officers
54. Interest in welfare of crewmembers' families

Using the scale below, please evaluate the quality of the following squadron functions on your most recent sea tour.

One of the worst	Below Average	Average	Above Average	One of the Best	N/A (not in a squadron on most recent sea tour)
A	B	C	D	E	F

55. Operations
56. Safety
57. Supply
58. Maintenance
59. Your squadron overall

YOUR MOST RECENT SHORE TOUR

The following questions (60-78) apply only to your most recent Shore Tour. If you have had no shore tour experience, please skip to question 79.

60. Is your most recent shore tour:

A. Your present assignment
B. Your immediately previous assignment
C. An earlier assignment

61. What is/was your flight status on your most recent shore tour?

A. DIFOPS (Duty involving flight, operational or training)
B. DIFDEN (with some flying)
C. DIFDEN (with no flying)

62. How long have you served on your most recent shore tour?

A. Less than 6 months	D. 19-24 months	G. 37-42 months
B. 7-12 months	E. 25-30 months	H. 43-48 months
C. 13-18 months	F. 31-36 months	I. More than 48 months

63. During your most recent shore tour what was your primary assignment?

A. FRS/RAG	D. Instructor (other than flight)	G. Other (fill in)
B. TRACOM	E. Washington Duty	_____
C. Staff	F. Postgraduate student	

64. On the average, approximately how many hours per week did/do you work on this shore tour?

A. 40 or less	D. 61-70	G. 91-100
B. 41-50	E. 71-80	H. More than 100
C. 51-60	F. 81-90	

65. During your most recent shore tour, approximately what percent of the total work hours you reported in #64 did/do you spend directly related to flying (flying, briefing, debriefing, etc.)?

A. None	D. 21-30%	G. 51-60%
B. 10% or less	E. 31-40%	H. Over 60%
C. 11-20%	F. 41-50%	

Using the scale below, please show how the following factors affected you on your most recent shore tour.

Very Negative	Negative	Neutral	Positive	Very Positive	N/A
A	B	C	D	E	F

66. Challenge
67. Separation from family/friends
68. Use of skills and abilities
69. Working environment
70. Hours of work required
71. Work pressure
72. Interesting duties
73. Ability to plan and schedule work activities
74. "Adventure"
75. Opportunity to grow professionally

Using the scale below, please evaluate the following aspects of your most recent shore tour.

Highly Unfavorable	Unfavorable	Neutral	Favorable	Highly Favorable	N/A
A	B	C	D	E	F

76. Location
77. Type of duties
78. Opportunity to fly

OPERATIONAL MANAGEMENT ACTIONS

Using the scale below, evaluate how the following factors affect squadron management.

Very Negative	Negative	Neutral	Positive	Very Positive	Don't Know
A	B	C	D	E	F

79. The sufficiency/management of OPTAR funds to support the mission and flight training requirements of squadrons.

80. Competence of maintenance personnel.

81. The availability of parts and supplies for aircraft maintenance.

82. Unexpected changes in plans or schedules.

83. Fleet exercises and inspections.

84. Frequency of "crisis management" situations.

85. Number of recurring and special reports required.

Using the scale below, evaluate the extent to which the following command levels generate "crisis management" situations.

Very great extent	Great extent	Moderate extent	Little extent	Very little extent	N/A or don't know
A	B	C	D	E	F

86. Squadron
87. Air Wing
88. Carrier Group (CTF)
89. AIRPAC/AIRLANT/CNATRA
90. Fleet Commander/Higher Command
91. BUPERS

Using the scale below, to what extent do you agree with the following statements about aviation command?

Strongly disagree	Disagree	Neither agree Nor disagree	Agree	Strongly agree	Don't know
A	B	C	D	E	F

92. Aviation command is important for a successful career in the Navy.
93. Aviation command is one of my personal goals.
94. COs have sufficient freedom to manage their commands as they see fit.
95. The rewards of aviation command justify the amount of effort and sacrifice required.

In order to maintain your flight proficiency, how adequate is the amount of flight time you ordinarily get in the following situations?

Very Inadequate	Inadequate	Neither adequate nor inadequate	Adequate	Very Adequate	N/A
A	B	C	D	E	F

96. While deployed on DIFOPS orders.
97. While on DIFOPS orders, not deployed.

NAVY VS. CIVILIAN CAREER

98. If you were to leave the Navy now, which one of the following civilian occupations would you seek to enter?

A. Don't plan to leave
B. Commerical aviation
C. Law
D. Engineering/Science
E. Self employment
F. Management
G. Sales
H. Other (fill in) _____
I. Don't know

Please indicate the relative opportunity of obtaining the following factors in the Navy versus your expectations of obtaining them in a civilian occupation.

Civilian				Navy		
Substantially Better	Much Better	Better	Comparable	Better	Much Better	Substantially Better
A	B	C	D	E	F	G

99. Interesting and challenging work
100. Ability to plan work
101. Reasonable hours of work required
102. Freedom from work pressure
103. Freedom from annoyances
104. Own initiative
105. Job security
106. Family stability
107. Desirable place to live
108. Desirable co-workers
109. Recognition

If you resigned from the Navy now, how would you expect your civilian annual pay and benefits to compare with Navy pay and benefits at the same point in time?

Don't know	Civ pay $15K less	Civ pay $10K less	Civ pay $5K less	Civ pay Navy pay same	Civ pay $5K more	Civ pay $10K more	Civ pay $15K more	Civ pay $20K more
A	B	C	D	E	F	G	H	I

110. In one year
111. In three years
112. In five years
113. In ten years

Using the following scale, please answer items 114 through 131.

Very little extent	Little extent	Some extent	Great extent	Very great extent
A	B	C	D	E

114. Fitness Reports rank you fairly in comparison to your peers

115. Decisions are made in this command at those levels where the most adequate information is available.

116. Information is widely shared in this command so that those who make decisions have access to available know-how.

117. When decisions are being made, to what extent are the people affected asked for their ideas?

118. To what extent do you feel motivated to contribute your best efforts to the command's mission and tasks?

119. To what extent are there things about this command (people, policies or conditions) that encourage you to work hard?

120. To what extent do people who work hard receive recognition from the command?

121. To what extent does your unit plan together and coordinate its efforts?

122. To what extent do you have confidence and trust in the members of your unit?

123. To what extent is information about important events widely exchanged within your unit?

Very little extent	Little extent	Some extent	Great extent	Very great extent
A	B	C	D	E

124. To what extent does your unit make good decisions and solve problems effectively?

125. All in all, how satisfied are you with this command?

126. All in all, how satisfied are you with your job?

127. All in all, how satisfied do you feel with the progress you have made in the Navy, up to now?

128. How satisfied do you feel with your chances for getting ahead in the Navy in the future?

129. Does your assigned work give you pride and feelings of self-worth?

130. Do you regard your duties in this command as helping your career?

131. To what extent do you feel that you have a personal impact on decisions in this command?

Using the scale below, please indicate how your spouse evaluates the following aspects of your Navy career. If you have no spouse, skip to Question 140.

Very Negative	Negative	Neutral	Positive	Very Positive	Don't Know
A	B	C	D	E	F

132. Changes in geographical location

133. Family separation

134. Health care benefits

135. Commissary and exchange benefits

136. Effects on dependents

137. How does your spouse feel about your Navy career?

A. Competely supportive
B. Moderately supportive
C. Neutral
D. Moderately antagonistic
E. Completely antagonistic

138. How is your spouse employed?

A. Full time housewife
B. Naval Officer
C. Professional
D. Clerical
E. Business/Finance
F. Teacher
G. Other (fill in) _____

139. If your spouse is employed outside the home, to what extent do your PCS moves to different geographical locations cause difficulties with you spouse's employment?

A. Not applicable
B. Extreme impact
C. Considerable impact
D. Moderate impact
E. Slight impact
F. Insignificant impact

Items 140-178 deal with a number of factors that may affect your life in naval aviation. Regardless of your decision to remain in or leave the Navy, please indicate how each factor has influenced your Navy career intentions. Use the following scale:

Very Negative Influence on Intentions	Negative Influence	Has No Impact	Positive Influence	Very Positive Influence on Intentions	Not Applicable No Experience With Factor
A	B	C	D	E	F

140. Impact of Navy career on home life.

141. Navy life in general.

142. The personal risks of naval aviation.

143. The sum total of Navy pay and allowances.

144. Shipboard habitability.

145. Availability of government housing for your family.

146. Availability of option to draw BAQ and live ashore.

147. Leadership/management effectiveness of your superiors.

148. Guidance from your superiors in career planning.

149. Present performance evaluation (Fitness Report) system.

150. Job security.

151. Opportunity to retire in twenty years.

152. Rate of promotion .

153. Tempo of operations and working hours while on shore.

154. Night carrier operations.

155. Type of aircraft in your most recent operational squadron.

156. Competition within peer groups for advancement.

157. Amount of flight pay.

158. With due regard to the Navy's requirements, your shore tour assignments.

159. Disassociated sea tour.

160. Recognition for superior performance.

161. Fairness of treatment by detailers.

162. Amount of flight time while deployed.

163. Amount of flight time while ashore.

164. Attraction of commercial aviation.

165. The way civilians view naval aviators.

166. "Mickey Mouse" or "Chicken Reg's"

167. Availability of desirable billets.

168. Opportunity to do something important for your country.

169. Challenge of squadron flying assignments.

170. Challenge of squadron "Ground" jobs.

Very Negative Influence on Intentions	Negative Influence	Has No Impact	Positive Influence	Very Positive Influence on Intentions	Not Applicable No Experience With Factor
A	B	C	D	E	F

171. Current civilian job market.

172. Educational opportunities in the Navy.

173. Health benefits and care in the Navy.

174. Commissary and exchange benefits.

175. Navy retirement benefits.

176. Superiors' emphasis on noting your mistakes rather than your accomplishments.

177. Membership in an elite group.

178. Time between flying tours.

What kind of incentive(s) (e.g., increased ACIP, bonus, opportunities for education) do you personally feel would be most effective in influencing pilots to remain in the Navy?

If this questionnaire has missed anything you feel is important regarding your career intentions or the Navy aviation community in general, please write in your comments below.

As indicated on the first page of this questionnaire, under no circumstances will your individual responses be made available to anyone in your chain of command. Your information will be combined with that of other respondents and used for research purposes only. However, to make it possible for us to obtain follow up information on career decisions of Navy Aviators and Flight Officers, it is essential that we have your Social Security number. We would appreciate it if you would write your SSN below. Also, please be sure to write it in the boxes provided on the front of your answer sheet and fill in the corresponding answer spaces.

SSN_____

THANK YOU VERY MUCH FOR YOUR HELP.

Please be sure to return <u>both</u> this questionnaire and the answer sheet in the enclosed envelope.

APPENDIX C

NAVY AVIATION CAREER SURVEY

(Units in Sample)

WEST COAST/PACIFIC

NAS Miramar
RVAW-110
VAW-113,112,114
VC-7
VF-2,51,121,124
VFP-63

NAS North IS
HC-3
HS-8,10
HSL-31,33,35

NAS Lemoore
VA-22,94,122,
VA-27,97,127

NAS Moffett
VP-19,9,31,48,
VP-40,50

Naval PG School

West Coast CV
Ship's company

NAS Whidbey Is.
VA-128,145,196
VAQ-129,131,134

USS Midway, CV-41
VA-56,93,115
VAW-115
VF-151,161
Ship's company

EAST COAST/ATLANTIC

NAS Norfolk
HM-12,14,16
HC-6
HSL-32,30,34
VAQ-33
VAW-121,122,125
VRF-31
Ship's company,CV

NAS Cecil Field
VA-46,86,174,15,45,72
VA-81,82,83,87
VS-24,30,28,32

NAS Brunswick
VP-8,10,23,26

NAS Jacksonville
HS-1,3,5,9,11,15
HSL-37
VP-5,30,45,46

NAS Oceana
VA-35,42,34,85,176
VF-101,171,11,14,33
VF-41,43,84,102
VC-2

NAS Corpus Christi
VT-27, 28,31*

NAS Whiting
VT-3*

NAS Kingsville
VT-22,23,21*

NAS Beeville
VT-24,25,26*

NAS Pensacola
VT-4,10,86*

(*Instructors only)

CASE SUBFILE	SEQNUM	MIS VAL	SEL	ACTUAL GROUP		HIGHEST PROBABILITY GROUP	P(X/G)	P(G/X)	2ND HIGHEST GROUP	P(G/X)	DISCRIMINANT SCOR
NONAME	283			0		0	0.8105	0.9798	1	0.0202	-1.5568
NONAME	285			1		1	0.5262	0.8386	0	0.1614	0.6057
NONAME	294			1		1	0.3676	0.7241	0	0.2759	0.3386
NONAME	317			1		1	0.4186	0.9952	0	0.0048	2.0485
NONAME	323			0		0	0.9627	0.9588	1	0.0412	-1.2702
NONAME	335			1		1	0.4399	0.9947	0	0.0053	2.0119
NONAME	341			0		0	0.3898	0.7445	1	0.2555	-0.4571
NONAME	353			0		0	0.9288	0.9543	1	0.0457	-1.2276
NONAME	370			0		0	0.7292	0.9845	1	0.0155	-1.6632
NONAME	383			0		0	0.8322	0.9386	1	0.0614	-1.1052
NONAME	389			0	***	1	0.2301	0.5498	0	0.4502	0.0394
NONAME	402			0		0	0.8780	0.9749	1	0.0251	-1.4704
NONAME	405			0		0	0.2305	0.5504	1	0.4496	-0.1179
NONAME	415			1		1	0.7618	0.9828	0	0.0172	1.5427
NONAME	417			1		1	0.8483	0.9415	0	0.0585	1.0483
NONAME	427			0		0	0.8223	0.9790	1	0.0210	-1.5417
NONAME	432			0	***	1	0.2647	0.6027	0	0.3973	0.1242
NONAME	434			1		1	0.8662	0.9446	0	0.0554	1.0710

SYMBOLS USED IN PLOTS

SYMBOL	GROUP	LABEL
1	0	CAREERISTS
2	1	RESIGNEES

P(X/G) = PROBABILITY THAT THE CASE BEING CONSIDERED IS SO FAR (X) FROM THE CENTROID IF THE CASE IS IN FACT A GROUP MEMBER. IF THIS VALUE IS SMALL, THIS CASE MIGHT WELL NOT BELONG TO THE GROUP.

P(G/X) = PROBABILITY OF GROUP MEMBERSHIP (G) GIVEN DISCRIMINANT-FUNCTION SCORE (X).

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN CANONICAL DISCRIMINANT FUNCTIONS AND DISCRIMINATING VARIABLES
VARIABLES ARE ORDERED BY THE FUNCTION WITH LARGEST CORRELATION AND THE MAGNITUDE OF THAT CORRELATION.

	FUNC 1
V10	-0.41266
V151	-0.45592
V175	-0.37287
V141	-0.35627
V130	-0.28913
V124	-0.28785
V163	-0.26603
V120	-0.24571
V172	-0.19496
V147	-0.18878
V134	-0.18525
V118	-0.15588
V120	-0.15918
V174	-0.14915
V17	-0.12853
V132	-0.12719
V177	-0.12584
V116	-0.12332
V133	-0.09331
V138	-0.09215
V140	-0.08271
V153	-0.07309
V171	0.06321
V156	-0.05759
V145	0.05524
V135	0.04663
V144	0.03352

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

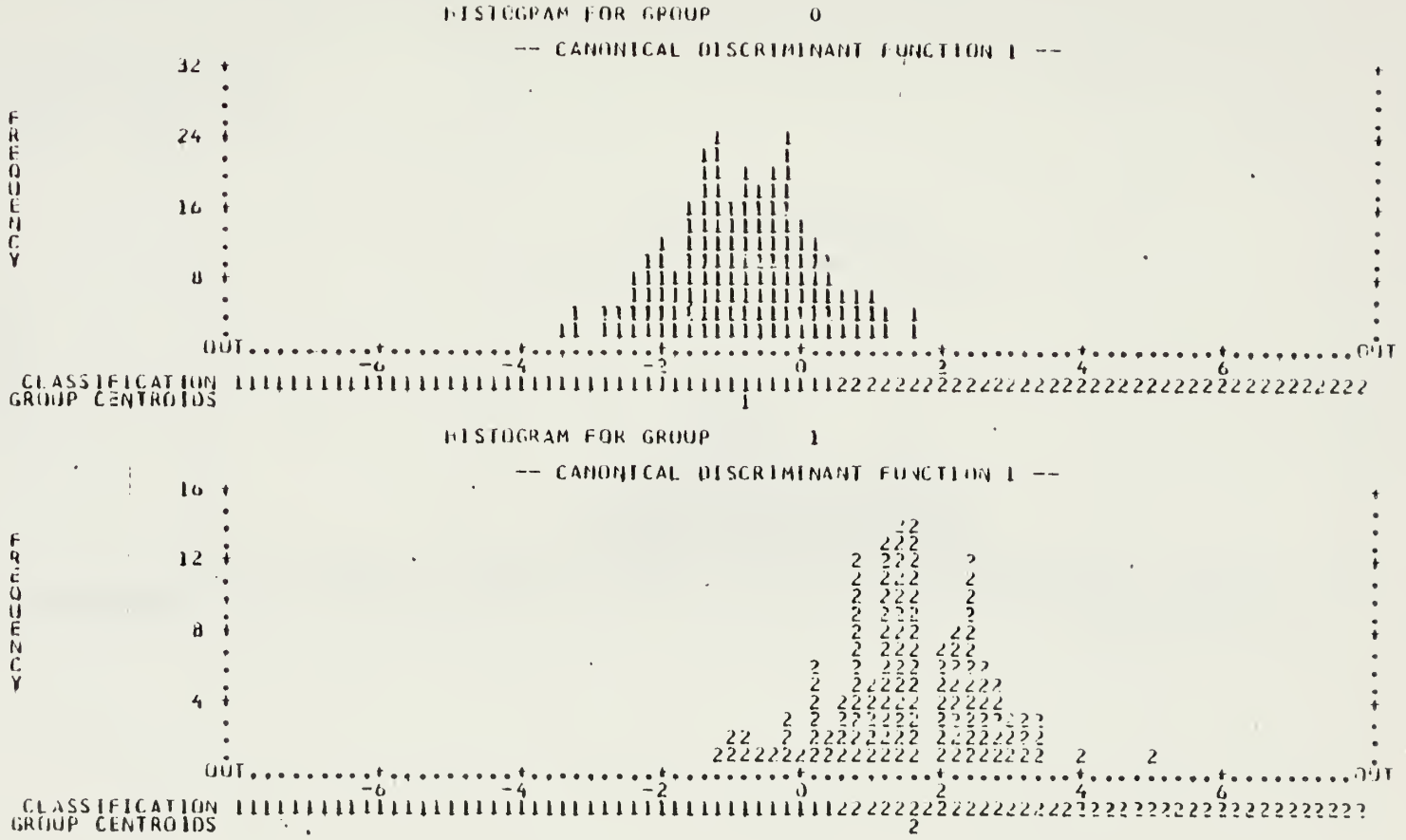
THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
0	14	-6.303557
1	14	-4.572004
POOLED WITHIN-GROUPS COVARIANCE MATRIX	14	-4.890699

BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM		SIGNIFICANCE
134.42	1.1454	105.	44402.6	0.1407

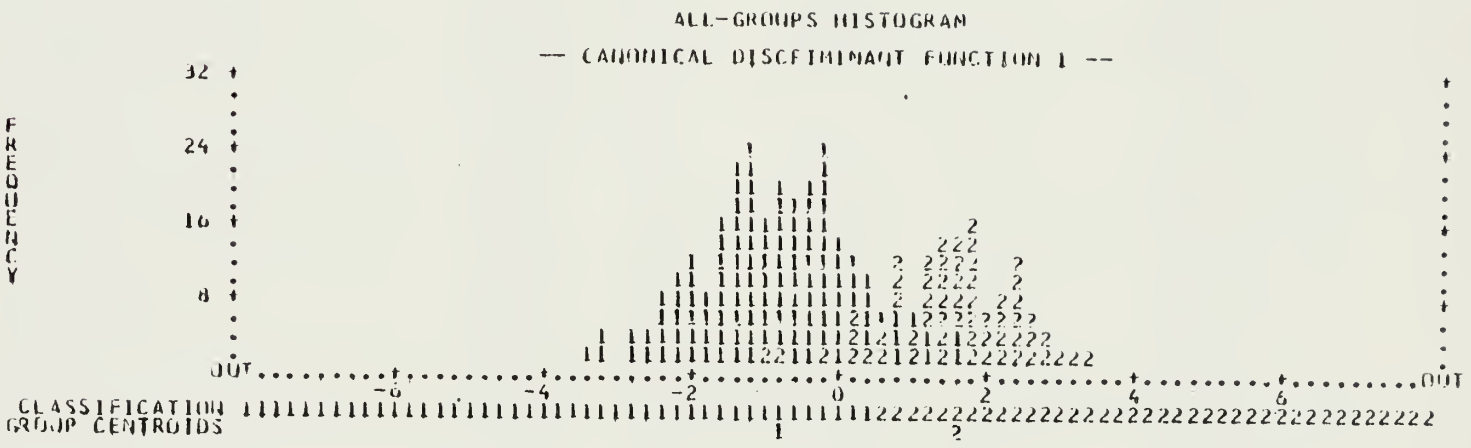
CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1
0	-0.81085
1	1.52364


HISTOGRAM FOR GROUP 0
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
32
24
16
8
OUT
-6
-4
-2
0
2
4
6
OUT
CLASSIFICATION GROUP CENTROIDS
1
HISTOGRAM FOR GROUP 1
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
16
12
8
4
OUT
-6
-4
-2
0
2
4
6
OUT
CLASSIFICATION GROUP CENTROIDS
2

SYMBOLS USED IN PLOTS

SYMBOL	GROUP	LABEL
1	0	
2	1	



CLASSIFICATION RESULTS FOR CASES SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP		NO. OF CASES	PREDICTED GROUP MEMBERSHIP 0	1
GROUP	0	111	96 86.5%	15 13.5%
GROUP	1	60	8 13.3%	52 86.7%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 86.55%

CLASSIFICATION RESULTS FOR CASES NOT SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP		NO. OF CASES	PREDICTED GROUP MEMBERSHIP 0	1
GROUP	0	181	154 85.1%	27 14.9%
GROUP	1	86	9 10.5%	77 89.5%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 86.02%

CLASSIFICATION PROCESSING SUMMARY

476 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
40 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
438 CASES WERE USED FOR PRINTED OUTPUT.

********** MULTIPLE REGRESSION ********** VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. VARA

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
V10	AGE	0.52929	0.28014	0.28014	-0.52929	-0.1832538	-0.33157
V151	RETIREMENT AN 20	0.61683	0.38048	0.10034	-0.44452	-0.1152555	-0.20356
V141	NAVY LIFE	0.66698	0.44486	0.06438	-0.42622	-0.5554123D-01	-0.11447
V169	SQUAD FLYING ASSIGNS	0.68761	0.47281	0.02795	-0.34242	-0.8494276D-01	-0.15104
V172	EDUC OPPORTUNITY IN NAVY	0.70173	0.49244	0.01964	-0.27211	-0.5545688D-01	-0.10874
V170	SQUAD GROUND JOBS	0.70875	0.50233	0.00988	-0.37793	-0.3203529D-01	-0.07194
V165	CIVILIANS VIEW NAVAL AIR	0.71516	0.51145	0.00913	0.06506	0.5175574D-01	0.10348
V130	DUTIES HELP CAREER	0.71857	0.51634	0.00489	-0.30889	-0.3420888D-01	-0.08397
V171	JOB MARKET	0.72154	0.52062	0.00427	0.20406	0.2734064D-01	0.06141
V147	LDRS AND MGT OF SUPER	0.72428	0.52454	0.00392	-0.32093	-0.3692551D-01	-0.08781
V115	DECSN MADE AT APPRO LEVEL	0.72893	0.53134	0.00676	-0.14059	0.2902514D-01	0.05619
V156	COMPETITION FOR ADVANCEMENT	0.73229	0.53588	0.00454	-0.16669	0.4999246D-01	0.08515
V124	GOOD DECSNS AND PROB SOLVE	0.73427	0.53915	0.00327	-0.28717	-0.4363417D-01	-0.07032
V157	NIGHT CARRIER OPS	0.73604	0.54175	0.00261	0.11027	0.1580754D-01	0.05096
V153	OPS TEMPO ASHORE	0.73800	0.54464	0.00288	-0.14773	-0.5321948D-01	-0.06511
V120	HARD WORK GETS RECOGNITION	0.74026	0.54799	0.00335	-0.13478	0.4148910D-01	0.08320
V161	RECOG FOR SUPER PERFORM	0.74223	0.55090	0.00292	-0.21040	-0.3182630D-01	-0.07212
V174	COMM AND EXCHANGE	0.74400	0.55353	0.00263	-0.05269	0.3864197D-01	0.08494
V173	RETIREMENT	0.74613	0.55670	0.00317	-0.34145	-0.3646023D-01	-0.08683
V140	HOME LIFE	0.74742	0.55864	0.00193	-0.11445	-0.2670700D-01	-0.05888
V116	INFO SHARED	0.74868	0.56052	0.00189	-0.10936	0.3418103D-01	0.06431
V129	PRIDE AND SELF-WORTH	0.74981	0.56221	0.00169	-0.31935	-0.3094066D-01	-0.06938
V142	AVAIL OF GOVT HOUSE	0.75090	0.56385	0.00164	0.11826	0.1576298D-01	0.04180
V177	REMARK OF ELITE GROUP	0.75211	0.56566	0.00181	-0.24475	-0.3332236D-01	-0.06050
V17	WHEN ELIGIBLE TO LEAVE NAVY	0.75316	0.56726	0.00159	-0.19846	-0.7668963D-02	-0.04553
V118	CONTRIBUTE BEST	0.75388	0.56833	0.00107	-0.21598	0.2406213D-01	0.04784
V154	YOUR SHORE ASSIGNMENT	0.75447	0.56923	0.00090	-0.15497	0.1494303D-01	0.03302
V144	SHIP HABITABILITY	0.75503	0.57006	0.00084	0.05647	0.1133268D-01	0.03479
V152	RATE OF PROMOTION	0.75543	0.57067	0.00060	-0.22304	0.1395508D-01	0.02806
(CONSTANT)						1.506720	

- D I S C R I M I N A N T A N A L Y S I S - - - - - - - - - - - - - - - - - -

ON GROUPS DEFINED BY VARA

ANALYSIS NUMBER 1

DIRECT METHOD: ALL VARIABLES PASSING THE TOLERANCE TEST ARE ENTERED.

MINIMUM TOLERANCE LEVEL..... 0.00100

CANONICAL DISCRIMINANT FUNCTIONS

MAXIMUM NUMBER OF FUNCTIONS..... 1
MINIMUM CUMULATIVE PERCENT OF VARIANCE... 100.00
MAXIMUM SIGNIFICANCE OF WILKS' LAMBDA.... 1.0000

PRIOR PROBABILITY FOR EACH GROUP IS 0.50000

THE FOLLOWING 1 VARIABLES FAILED THE TOLERANCE TEST..

VARIABLE	WITHIN GROUPS VARIANCE	TOLERANCE	MINIMUM TOLERANCE
V17	0.0	0.0	0.0

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	2.59819	100.00	100.00	0.8497541	0	0.2779179	76.826	26	0.0000

* MARKS THE 1 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1
V10	-0.21954
V116	0.00784
V118	0.32822
V120	0.25806
V124	-0.11700
V129	-0.16118
V130	-0.05693
V140	-0.19633
V141	-0.40585
V144	-0.30860
V145	0.40208
V147	-0.59681
V151	-0.28088
V152	0.22887
V153	-0.06276
V154	0.55412
V156	-0.54055
V163	0.04972
V164	-0.15379
V165	0.35134
V169	-0.45231
V171	-0.18285
V172	-0.21192
V174	0.08659
V175	-0.30395
V177	-0.02560

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN CANONICAL DISCRIMINANT FUNCTIONS AND DISCRIMINATING VARIABLES
VARIABLES ARE ORDERED BY THE FUNCTION WITH LARGEST CORRELATION AND THE MAGNITUDE OF THAT CORRELATION.

	FUNC 1
V147	-0.47199
V124	-0.29304
V141	-0.28340
V158	-0.25334
V10	-0.24886
V130	-0.24861
V156	-0.24756
V151	-0.23534
V116	-0.19651
V169	-0.19753
V175	-0.19350
V172	-0.17418
V145	0.16350
V129	-0.14620
V163	-0.10544
V120	-0.10337
V118	-0.12280
V177	-0.11061
V154	0.09721
V140	-0.09361
V153	-0.05071
V152	-0.04966
V165	0.04582
V174	0.04512
V144	0.02734
V171	-0.01493

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1
0	-1.94765
1	1.29844

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
0	26	-30.590213
1	26	-14.229212
POOLED WITHIN-GROUPS COVARIANCE MATRIX	26	-12.548317

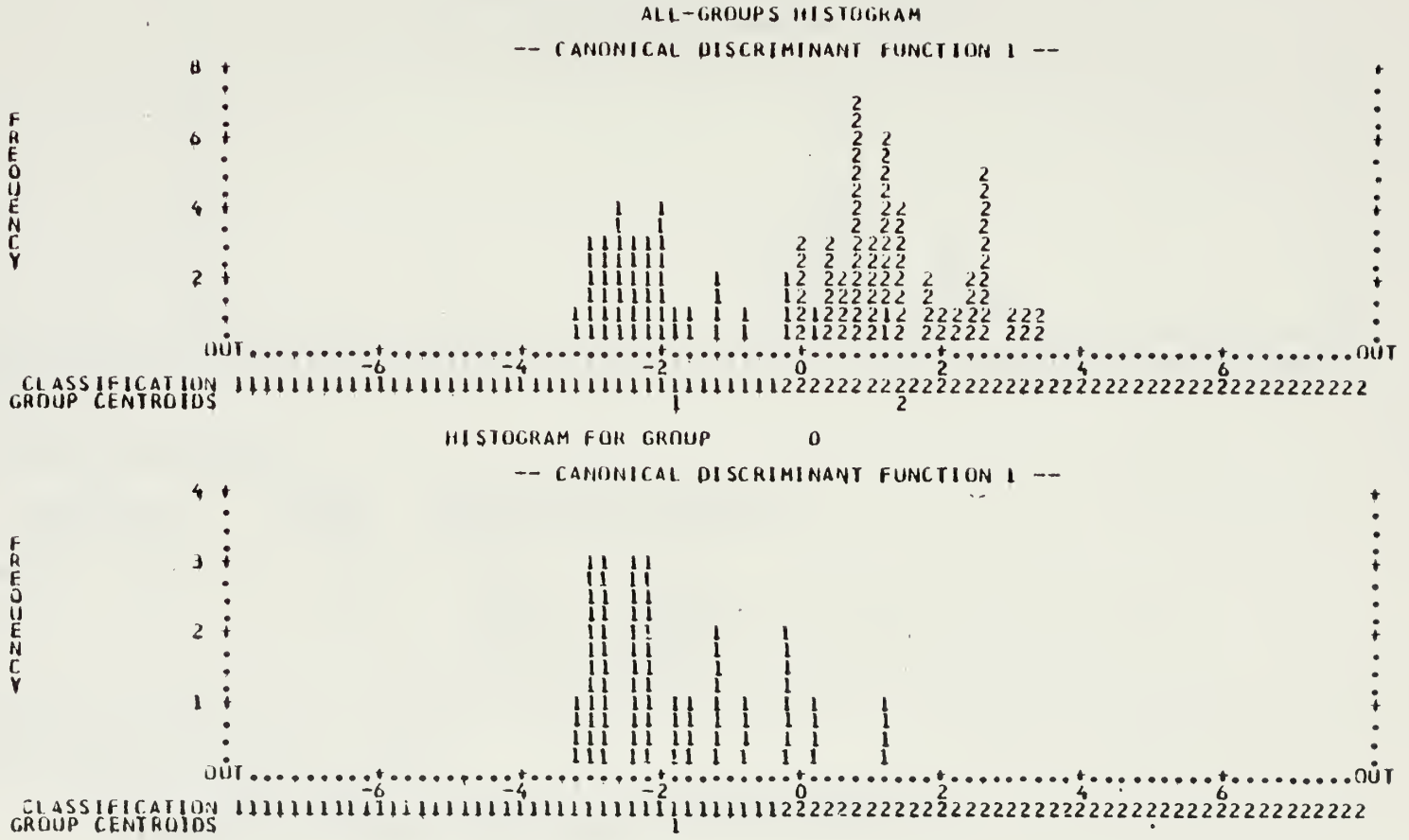
BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM		SIGNIFICANCE
597.17	0.99797	351,	11853.7	0.5010

SUBFILE	CASE SEQNUM	MIS VAL	SEL	ACTUAL GROUP		HIGHEST PROBABILITY GROUP	P(X/G)	P(G/X)	2ND HIGHEST GROUP	P(G/X)	DISCRIMINANT SCORES
NONAME	1			0		0	0.5370	0.9993	1	0.0007	-2.5650
NONAME	11			0		0	0.8682	0.9970	1	0.0030	-2.1136
NONAME	14			0	***	1	0.2837	0.8568	0	0.1432	0.2264
NONAME	26			1		1	0.6216	0.9751	0	0.0249	0.8048
NONAME	47			1		1	0.0524	1.0000	0	0.0000	3.2385
NONAME	51			0		0	0.5546	0.9992	1	0.0008	-2.5385
NONAME	78			0		0	0.8576	0.9909	1	0.0091	-1.7708
NONAME	81			1		1	0.6299	0.9760	0	0.0240	0.8165
NONAME	84			1		1	0.1323	0.5946	0	0.4054	-0.2067
NONAME	106			0		0	0.3576	0.9997	1	0.0003	-2.8676
NONAME	112			1		1	0.4415	0.9410	0	0.0590	0.5288
NONAME	121			0		0	0.5212	0.9994	1	0.0006	-2.5891
NONAME	127			0		0	0.3802	0.9997	1	0.0003	-2.6252
NONAME	134			0		0	0.5724	0.9992	1	0.0008	-2.5122
NONAME	139			0		0	0.8820	0.9968	1	0.0032	-2.0961
NONAME	146			0		0	0.2415	0.9999	1	0.0001	-3.1189
NONAME	168			0		0	0.2707	0.8446	1	0.1554	-0.8461
NONAME	169			1		1	0.4615	0.9468	0	0.0532	0.5621
NONAME	177			1		1	0.4092	0.9996	0	0.0004	2.1256
NONAME	182			1		1	0.5736	0.9690	0	0.0310	0.7356
NONAME	185			0		0	0.6525	0.9988	1	0.0012	-2.3983
NONAME	192			1		1	0.5717	0.9687	0	0.0313	0.7329
NONAME	195			0		0	0.2550	0.9999	1	0.0001	-3.0859
NONAME	203			0		0	0.5073	0.9991	1	0.0009	-2.4998
NONAME	209			1		1	0.8669	0.9913	0	0.0087	1.1334
NONAME	212			1		1	0.2035	0.7579	0	0.2421	0.0269
NONAME	217			1		1	0.1852	0.9999	0	0.0001	2.6114
NONAME	219			1		1	0.7022	0.9825	0	0.0175	0.9161
NONAME	234			1		1	0.9228	0.9930	0	0.0070	1.2016
NONAME	235			1		1	0.0333	1.0000	0	0.0000	3.4649
NONAME	237			1		1	0.9760	0.9953	0	0.0047	1.3285
NONAME	241			1		1	0.8206	0.9894	0	0.0106	1.0717
NONAME	242			0		0	0.6121	0.9990	1	0.0010	-2.4547
NONAME	251			1		1	0.3394	0.8573	0	0.1427	0.3430
NONAME	253			0		0	0.7738	0.9871	1	0.0129	-1.6602
NONAME	254			0	***	1	0.1474	0.6377	0	0.3623	-0.1505
NONAME	255			1		1	0.9692	0.9955	0	0.0045	1.3370
NONAME	261			1		1	0.2248	0.9999	0	0.0001	2.5122
NONAME	263			1		1	0.1427	0.6249	0	0.3751	-0.1673
NONAME	264			1		1	0.0760	1.0000	0	0.0000	3.0727
NONAME	271			1		1	0.3641	0.9107	0	0.0893	0.3909
NONAME	273			1		1	0.8897	0.9920	0	0.0080	1.1597
NONAME	275			0		0	0.9934	0.9950	1	0.0050	-1.9559
NONAME	277			1		1	0.6402	0.9771	0	0.0229	0.8310
NONAME	278			1		1	0.5297	0.9993	0	0.0007	1.9269
NONAME	279			1		1	0.1657	0.9999	0	0.0001	2.6846
NONAME	280			1		1	0.9271	0.9962	0	0.0038	1.3899
NONAME	299			1		1	0.9613	0.9956	0	0.0044	1.3469

SUBFILE	CASE SEQNUM	MIS VAL	SEL	ACTUAL GROUP	HIGHEST GROUP	HIGHEST PROBABILITY P(X/G)	HIGHEST PROBABILITY P(G/X)	2ND HIGHEST GROUP	2ND HIGHEST P(G/X)	DISCRIMINANT SCORES
NONAME	304			1	1	0.8407	0.9902	0	0.0098	1.0974
NONAME	306			0	0	0.9472	0.9959	1	0.0041	-2.0139
NONAME	309			0	0	0.2631	0.9999	1	0.0001	-3.0667
NONAME	310			1	1	0.6503	0.9988	0	0.0012	1.7518
NONAME	321			1	1	0.2070	0.7636	0	0.2364	0.0366
NONAME	322			1	1	0.2290	0.9999	0	0.0001	2.5014
NONAME	324			1	1	0.9750	0.9943	0	0.0057	1.2671
NONAME	339			1	1	0.3516	0.9042	0	0.0958	0.3669
NONAME	355			1	1	0.9579	0.9939	0	0.0061	1.2456
NONAME	356			0	0	0.9840	0.9945	1	0.0055	-1.9276
NONAME	357			0	0	0.8254	0.9975	1	0.0025	-2.1682
NONAME	365			0	0	0.4827	0.9521	1	0.0479	-1.2457
NONAME	367			0	0	0.8365	0.9974	1	0.0026	-2.1540
NONAME	376			1	1	0.6075	0.9990	0	0.0010	1.8123
NONAME	378			1	1	0.1837	0.7313	0	0.2687	-0.0161
NONAME	385			0	1	0.8429	0.9903	0	0.0097	1.1003
NONAME	394			0	1	0.1399	0.6170	0	0.3830	-0.1777
NONAME	397			0	0	0.3628	0.9997	1	0.0003	-2.8578
NONAME	398			1	1	0.5970	0.9721	0	0.0279	0.7697
NONAME	408			1	1	0.2347	0.8039	0	0.1961	0.1130
NONAME	409			0	0	0.3191	0.9998	1	0.0002	-2.9440
NONAME	411			1	1	0.9990	0.9949	0	0.0051	1.2997
NONAME	412			1	1	0.1844	0.9999	0	0.0001	2.6259
NONAME	413			1	1	0.2855	0.9998	0	0.0002	2.3664
NONAME	414			1	1	0.2671	0.9999	0	0.0001	2.4082
NONAME	419			0	0	0.4316	0.9379	1	0.0621	-1.1612
NONAME	430			1	1	0.6658	0.9795	0	0.0205	0.8665

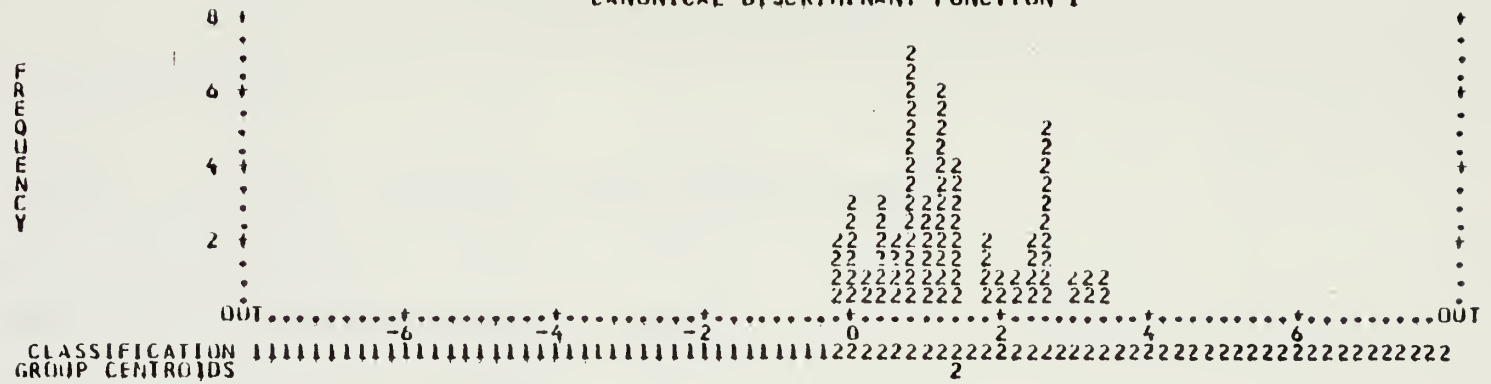
SYMBOLS USED IN PLOTS

SYMBOL	GROUP	LABEL
1	0	
2	1	


ALL-GROUPS HISTOGRAM
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
8
6
4
2
OUT
-6
-4
-2
0
2
4
6
OUT
CLASSIFICATION
GROUP CENTROIDS
1
2
HISTOGRAM FOR GROUP 0
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
4
3
2
1
OUT
-6
-4
-2
0
2
4
6
OUT
CLASSIFICATION
GROUP CENTROIDS
1

HISTOGRAM FOR GROUP 1

-- CANONICAL DISCRIMINANT FUNCTION 1 --



CLASSIFICATION RESULTS -

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP 0	1
GROUP 0	30	26 86.7%	4 13.3%
GROUP 1	45	0 0.0%	45 100.0%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 94.67%

CLASSIFICATION PROCESSING SUMMARY

81 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
6 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
75 CASES WERE USED FOR PRINTED OUTPUT.

- D I S C R I M I N A N T A N A L Y S I S - - - - - - - - - - - - - - - - - -

ON GROUPS DEFINED BY VARA

ANALYSIS NUMBER 1

DIRECT METHOD: ALL VARIABLES PASSING THE TOLERANCE TEST ARE ENTERED.

MINIMUM TOLERANCE LEVEL..... 0.00100

CANONICAL DISCRIMINANT FUNCTIONS

MAXIMUM NUMBER OF FUNCTIONS..... 1
MINIMUM CUMULATIVE PERCENT OF VARIANCE... 100.00
MAXIMUM SIGNIFICANCE OF WILKS' LAMBDA.... 1.0000

PRIOR PROBABILITY FOR EACH GROUP IS 0.50000

THE FOLLOWING 1 VARIABLES FAILED THE TOLERANCE TEST..

VARIABLE	WITHIN GROUPS VARIANCE	TOLERANCE	MINIMUM TOLERANCE
V11	0.0	0.0	0.0

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	1.68347	100.00	100.00	0.7920528	0	0.3726524	50.343	26	0.0029

* MARKS THE 1 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1
V10	-0.36044
V116	0.09394
V118	-0.02674
V120	0.10144
V124	-0.04193
V129	-0.11483
V130	-0.53567
V140	-0.20060
V141	-0.06262
V144	0.18304
V145	-0.01771
V147	-0.21262
V151	-0.24732
V152	-0.05970
V153	-0.15189
V154	0.48614
V156	0.04046
V159	0.39355
V160	-0.15905
V165	0.61893
V169	-0.29671
V171	-0.35266
V172	-0.02839
V174	0.44749
V175	-0.63189
V177	-0.01538

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN CANONICAL DISCRIMINANT FUNCTIONS AND DISCRIMINATING VARIABLES
VARIABLES ARE ORDERED BY THE FUNCTION WITH LARGEST CORRELATION AND THE MAGNITUDE OF THAT CORRELATION.

	FUNC 1
V129	-0.32385
V130	-0.32670
V10	-0.30777
V159	-0.26363
V151	-0.24632
V175	-0.24565
V156	-0.24207
V154	0.24171
V124	-0.21994
V160	-0.21702
V147	-0.21524
V141	-0.20867
V153	-0.20153
V120	-0.20118
V116	-0.19436
V177	-0.15790
V152	-0.14717
V144	0.14641
V165	0.14575
V172	-0.08226
V154	0.07522
V140	-0.06103
V118	-0.05165
V145	0.03737
V174	0.03003
V171	0.00191

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1
0	-1.31700
1	1.23953

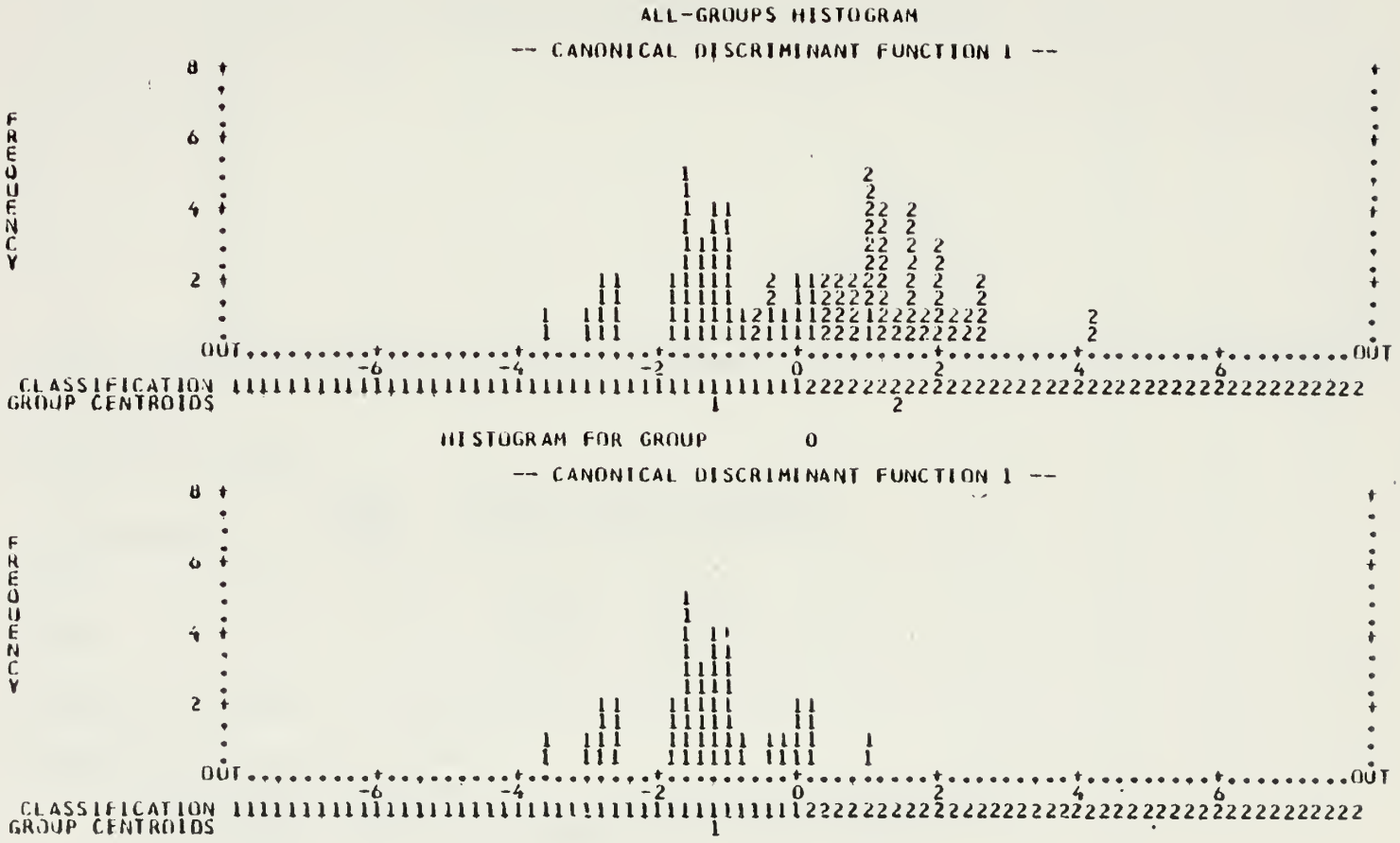
TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
0	26	-24.286071
1	26	-16.656862
POOLED WITHIN-GROUPS COVARIANCE MATRIX	26	-8.579549

BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM		SIGNIFICANCE
753.45	1.1967	351,	12327.4	0.0074

CASE SUBFILE	SEQNUM	MIS VAL	SEL	ACTUAL GROUP		HIGHEST PROBABILITY GROUP	P(X/G)	P(G/X)	2ND HIGHEST GROUP	P(G/X)	DISCRIMINANT SCORES
NONAME	6			0		0	0.1511	0.9990	1	0.0010	-2.7528
NONAME	17			1		1	0.1471	0.9991	0	0.0009	2.6893
NONAME	20			1		1	0.3055	0.6566	0	0.3434	0.2148
NONAME	21			1	***	0	0.4573	0.7970	1	0.2030	-0.5737
NONAME	24			0		0	0.7340	0.9832	1	0.0168	-1.6303
NONAME	25			1		1	0.1775	0.9988	0	0.0012	2.5879
NONAME	37			0		0	0.2127	0.5205	1	0.4795	-0.0708
NONAME	40			1		1	0.2639	0.9978	0	0.0022	2.3567
NONAME	53			1		1	0.3427	0.6989	0	0.3011	0.2907
NONAME	65			0		0	0.7485	0.9835	1	0.0165	-1.6376
NONAME	88			1		1	0.8147	0.9390	0	0.0610	1.0308
NONAME	90			1	***	0	0.3291	0.6841	1	0.3159	-0.3410
NONAME	94			1		1	0.6541	0.9880	0	0.0120	1.6876
NONAME	103			1		1	0.7169	0.9852	0	0.0148	1.6021
NONAME	110			0		0	0.0265	0.9999	1	0.0001	-3.5360
NONAME	111			0		0	0.5747	0.9910	1	0.0090	-1.8782
NONAME	113			0		0	0.1547	0.9990	1	0.0010	-2.7401
NONAME	120			0	***	1	0.8326	0.9386	0	0.0614	1.0281
NONAME	136			1		1	0.8248	0.9371	0	0.0629	1.0182
NONAME	150			1		1	0.6220	0.8816	0	0.1184	0.7465
NONAME	154			1		1	0.5865	0.9617	0	0.0383	1.2226
NONAME	158			0		0	0.9612	0.9675	1	0.0325	-1.3657
NONAME	163			0		0	0.1837	0.9987	1	0.0013	-2.6465
NONAME	164			0		0	0.5810	0.8649	1	0.1351	-0.7651
NONAME	165			1		1	0.5057	0.9931	0	0.0069	1.9050
NONAME	166			0		0	0.7623	0.9239	1	0.0762	-1.0145
NONAME	170			0		0	0.9587	0.9583	1	0.0417	-1.2652
NONAME	186			1		1	0.3935	0.7477	0	0.2523	0.3862
NONAME	189			1		1	0.6019	0.8737	0	0.1263	0.7179
NONAME	198			1		1	0.5205	0.8355	0	0.1645	0.5970
NONAME	200			1		1	0.9277	0.9542	0	0.0458	1.1408
NONAME	201			1		1	0.9934	0.9631	0	0.0369	1.2375
NONAME	205			0		0	0.0955	0.9995	1	0.0005	-2.9842
NONAME	207			1	***	0	0.3811	0.7393	1	0.2607	-0.4466
NONAME	210			1		1	0.9272	0.9541	0	0.0459	1.1482
NONAME	216			1		1	0.3207	0.9970	0	0.0030	2.2326
NONAME	218			0		0	0.7211	0.9134	1	0.0866	-0.9690
NONAME	224			1		1	0.8130	0.9796	0	0.0204	1.4761
NONAME	226			0	***	1	0.3164	0.6696	0	0.3304	0.2376
NONAME	232			0		0	0.7759	0.9269	1	0.0731	-1.0323
NONAME	246			0		0	0.9758	0.9660	1	0.0340	-1.3474
NONAME	252			1		1	0.5330	0.9923	0	0.0077	1.8629
NONAME	257			1		1	0.7856	0.9291	0	0.0709	0.9676
NONAME	260			1		1	0.7894	0.9811	0	0.0189	1.5067
NONAME	265			0		0	0.7981	0.9318	1	0.0682	-1.0612
NONAME	274			0		0	0.1702	0.9989	1	0.0011	-2.6885
NONAME	281			0		0	0.6387	0.9887	1	0.0113	-1.7865
NONAME	282			1		1	0.0030	1.0000	0	0.0000	4.2049


ALL-GROUPS HISTOGRAM
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
8
6
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-4
-2
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2
4
6
OUT
CLASSIFICATION
GROUP CENTROIDS
1
2
HISTOGRAM FOR GROUP 0
-- CANONICAL DISCRIMINANT FUNCTION 1 --
FREQUENCY
8
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-6
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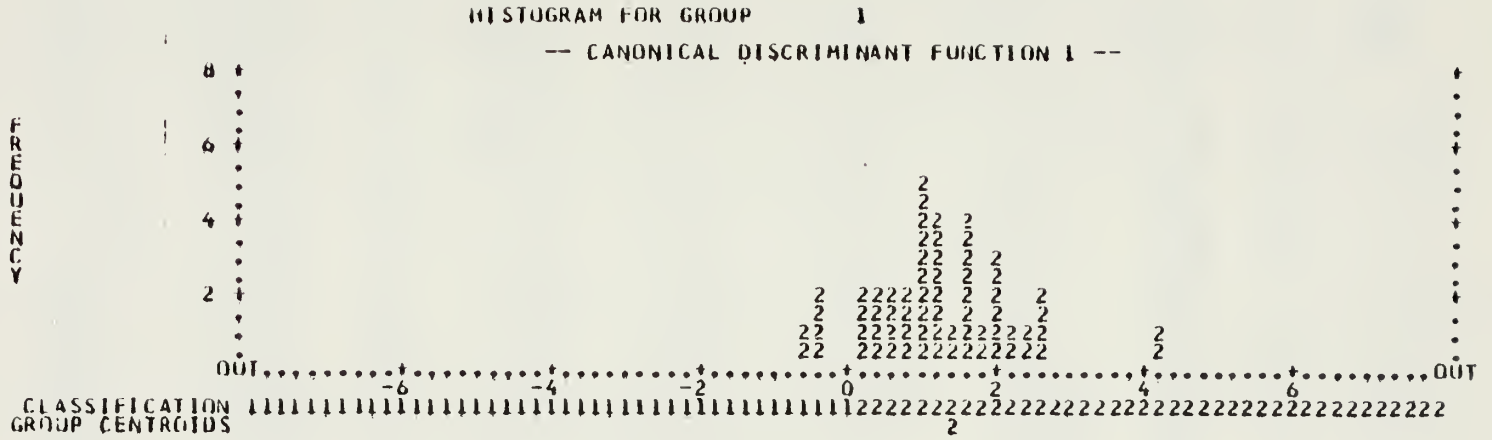
OUT
CLASSIFICATION
GROUP CENTROIDS
1



CLASSIFICATION RESULTS -

ACTUAL GROUP		NO. OF CASES	PREDICTED GROUP MEMBERSHIP 0	1
GROUP	0	32	28 87.5%	4 12.5%
GROUP	1	34	3 8.8%	31 91.2%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 89.39%

CLASSIFICATION PROCESSING SUMMARY

79 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
13 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
66 CASES WERE USED FOR PRINTED OUTPUT.

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